

**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF SOUTH CAROLINA
CHARLESTON DIVISION**

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| IN RE: AQUEOUS FILM-FORMING FOAMS PRODUCTS LIABILITY LITIGATION | MDL No. 2873 Master Docket No. 2:18-mn-2873 Judge Richard Gergel Civil Action No.: |
| <p>ELIZABETH LINSLEY, Plaintiff, v. 3M COMPANY (f/k/a Minnesota Mining and Manufacturing Company); AGC CHEMICALS AMERICAS INC.; ALLSTAR FIRE EQUIPMENT; AMEREX CORPORATION; ARCHROMA U.S., INC.; ARKEMA INC.; BASF CORPORATION; BUCKEYE FIRE EQUIPMENT COMPANY; CARRIER FIRE & SECURITY AMERICAS CORP., INC.; CARRIER GLOBAL CORPORATION; CHEMDESIGN PRODUCTS, INC.; CHEMGUARD INC.; CHEMICALS, INC.; CLARIANT CORPORATION; CORTEVA, INC.; CB GARMENT, INC.; DEEPWATER CHEMICALS, INC.; DUPONT DE NEMOURS, INC.; DYNAX CORPORATION; E. I. DUPONT DE NEMOURS AND COMPANY; FIRE-DEX, LLC; FIRE SERVICE PLUS, INC.; GLOBE MANUFACTURING COMPANY LLC; HONEYWELL SAFETY PRODUCTS USA, INC.;</p> | DIRECT FILED COMPLAINT AND DEMAND FOR JURY TRIAL PURSUANT TO CASE MANAGEMENT ORDER NO. 3 |

**INNOTEK CORP.;
LION GROUP, INC.;
L.N. CURTIS & SONS;
MALLORY SAFETY AND SUPPLY, LLC;
MILLIKEN & COMPANY;
MINE RESPIRATOR COMPANY, LLC;
MUNICIPAL EMERGENCY SERVICES,
INC.;
NATION FORD CHEMICAL COMPANY;
NATIONAL FOAM, INC.;
PBI PERFORMANCE PRODUCTS, INC.;
PERIMETER SOLUTIONS, LP;
RAYTHEON TECHNOLOGIES
CORPORATION;
RICOCHET MANUFACTURING CO., INC.;
ROYAL CHEMICAL COMPANY, LTD.;
SAFETY COMPONENTS INC.;
SOUTHERN MILLS, INC.;
SOUTHERN MILLS INC d/b/a TEN CATE
PROTECTIVE FABRICS USA;
STEDFAST USA, INC.;
THE CHEMOURS COMPANY;
THE CHEMOURS COMPANY FC, LLC;
TYCO FIRE PRODUCTS, LP;
UNITED TECHNOLOGIES
CORPORATION;
UTC FIRE & SECURITIES AMERICAS;
VERIDIAN LIMITED d/b/a VERIDIAN
FIRE PROTECTIVE GEAR;
WITMER PUBLIC SAFETY GROUP, INC.;
W.L. GORE & ASSOCIATES, INC.
and JOHN DOE DEFENDANTS 1-20,**

Defendants.

COMPLAINT

Plaintiff, ELIZABETH LINSLEY, brings this action against: 3M COMPANY (f/k/a Minnesota Mining and Manufacturing Company); AGC CHEMICALS AMERICAS, INC.; ALLSTAR FIRE EQUIPMENT; AMEREX CORPORATION; ARCHROMA U.S., INC.; ARKEMA INC.; BASF CORPORATION; BUCKEYE FIRE EQUIPMENT COMPANY;

CARRIER GLOBAL CORPORATION; CHEMDESIGN PRODUCTS, INC.; CHEMGUARD, INC.; CHEMICALS, INC.; CLARIANT CORPORATION; CORTEVA, INC.; CB GARMENT, INC.; DEEPWATER CHEMICALS, INC.; DUPONT DE NEMOURS INC. (f/k/a DOWDUPONT, INC.); DYNAX CORPORATION; E.I. DUPONT DE NEMOURS AND COMPANY; FIRE-DEX, LLC; FIRE SERVICE PLUS, INC.; GLOBE MANUFACTURING COMPANY, LLC; HONEYWELL SAFETY PRODUCTS USA, INC.; INNOTEX CORP.; LION GROUP, INC.; L.N. CURTIS & SONS; MALLORY SAFETY AND SUPPLY, LLC; MILLIKEN & COMPANY; MINE RESPIRATOR COMPANY, LLC; MUNICIPAL EMERGENCY SERVICES, INC.; NATION FORD CHEMICAL COMPANY; NATIONAL FOAM, INC.; PBI PERFORMANCE PRODUCTS, INC.; PERIMETER SOLUTIONS, LP; RAYTHEON TECHNOLOGIES CORPORATION; RICOCHET MANUFACTURING CO., INC.; ROYAL CHEMICAL COMPANY, LTD; SAFETY COMPONENTS, INC.; SOUTHERN MILLS INC.; SOUTHERN MILLS INC. d/b/a TEN CATE; PROTECTIVE FABRICS USA; STEDFAST USA, INC.; THE CHEMOURS COMPANY; THE CHEMOURS COMPANY FC, LLC; TYCO FIRE PRODUCTS L.P.; UTC FIRE & SECURITIES AMERICAS; VERIDIAN LIMITED d/b/a VERIDIAN FIRE PROTECTIVE GEAR; WITMER PUBLIC SAFETY GROUP, INC.; W.L. GORE & ASSOCIATES, INC. and JOHN DOE DEFENDANTS 1-20, fictitious names whose present identities are unknown (collectively “Defendants”), and alleges, upon information and belief, as follows:

NATURE OF THE ACTION

1. Plaintiff brings this action for damages for personal injury resulting from exposure to Aqueous Film-Forming Foam (“AFFF”) and protective clothing specifically designed for fire fighters (“bunker gear”), both of which contain the toxic chemicals collectively known as per and

polyfluoroalkyl substances (“PFAS”). PFAS are a class of chemical that include, but are not limited to, Perfluorooctanoic Acid (“PFOA”), Perfluorooctanesulfonic acid (“PFOS”), Perfluorononanoic acid (“PFNA”), Perfluorohexanesulfonic acid (“PFHxS”), Perfluorobutanesulfonic acid (“PFBS”), Hexafluoropropylene Oxide (“HFPO”, also known as “Gen-X”), and / or their precursors and derivatives, and other fluorocompounds.

2. For purposes of this Complaint, PFAS, AFFF containing PFAS and bunker gear containing PFAS may be referred to collectively as “PFAS products.”

3. This is also an action for damages due to Plaintiff relating to Defendants manufacturing, marketing, distribution, and sales in connection with PFAS and PFAS-containing materials in bunker gear.

4. Upon information and belief, PFAS, known as “forever chemicals” because they resist biodegradation, persist in the environment, and accumulate in people and other living organisms, have contaminated the land, air, and water, through the use of AFFF containing PFAS and bunker gear containing PFAS.

5. AFFF is a foam used for fighting high-hazard flammable liquid fires, involving gasoline, oil, and jet fuel.

6. For decades, Defendants were aware of the toxic nature of PFAS and the harmful impact these substances have on human health. Yet, Defendants manufactured, designed, marketed, sold, supplied, and/or distributed PFAS, AFFF containing PFAS and bunker gear containing PFAS, to firefighting training facilities, fire departments, and military installations across the country, including to locations where Plaintiff lived and/or worked. Defendants did so, moreover, without ever informing fire fighters or the public that their AFFF and bunker gear contained PFAS, and without warning fire fighters or the public of the substantial and serious

health injuries that can result from exposure to PFAS, including AFFF containing PFAS and bunker gear containing PFAS. Even worse, Defendants concealed the hazardous toxicity, persistence and bioaccumulation of PFAS, and repeatedly misrepresented the safety of PFAS and/or PFAS-containing materials.

7. All Defendants were involved in the development, marketing, release, training users of, instructional materials, warnings, sale, handling, and use in connection with the AFFF and bunker gear Plaintiff was exposed to.

8. At all relevant times and continuing to the present, Defendants have represented that their AFFF and bunker gear are safe.

9. This action seeks compensatory and punitive damages, costs incurred and to be incurred by Plaintiff, and any other damages that the Court or jury may deem appropriate, arising from the intentional, malicious, knowing, reckless and/or negligent acts and/or omissions of Defendants in connection with the Plaintiff's exposure to Defendants' PFAS products, AFFF and bunker gear Plaintiff was exposed to.

JURISDICTION AND VENUE

10. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. § 1331, federal question jurisdiction, as the defendants have claimed, or are anticipated to claim, derivative sovereign immunity as a government contractor. *See* 2:18-mn-2873-RMG filings of General Denials and Preliminary Statements of Affirmative Defenses; and *Boyles v. United Technologies Corp.*, 487 U.S. 500 (1988).

11. Venue is proper in this District Court pursuant to this Court's Case Management Order No. 3 ("CMO No. 3"). Plaintiff states that but for the Order permitting direct filing in the United States District Court for the District of South Carolina, Plaintiff would have filed this

Complaint in the United States District Court for the Eastern District of Tennessee. Further, in accordance with CMO No. 3, Plaintiff designates the United States District Court for the Eastern District of Tennessee as the home venue. Venue is originally proper in the District Court pursuant to 28 U.S.C. §1391 because it is the judicial district in which Plaintiff was a resident and/or citizen, a substantial part of the events or omissions giving rise to the claims occurred, and Defendants conduct business within the district.

12. The United States District Court for the Eastern District of Tennessee has personal jurisdiction over the Defendants because at all times relevant to this lawsuit, the Defendants manufactured, designed, marketed, distributed, released, promoted, used and/or otherwise sold PFAS products, including AFFF and bunker gear, to various locations, such that each Defendant knew or should have known that said products would be delivered and used to areas in the state of TN Tennessee for active use by firefighters and other users during the course of training and firefighting activities and that Plaintiff would be exposed to PFAS from said products. Therefore, the exercise of jurisdiction over the Defendants by the United States District Court for the Eastern District of Tennessee does not offend traditional notions of fair play and substantial justice.

PARTIES

PLAINTIFF

13. Plaintiff, Elizabeth Linsley, is a citizen of the United States of America and a current resident of Knoxville, TN.

14. Plaintiff was born on December 25, 1958.

15. Between 1974 and 1987, Plaintiff has worked as a firefighter in George AFB CA, Korea (overseas), England AFB LA, Eielson AFB AK and Langley AFB VA.

16. Based upon information and belief, Defendants' PFAS products, including AFFF,

and bunker gear were used in a manner resulting in Plaintiff's exposure to PFAS.

17. Plaintiff was exposed to AFFF containing PFAS used in the ordinary course of her employment as a firefighter. Plaintiff was also exposed to bunker gear in the normal course of performing her firefighting duties and was thereby repeatedly exposed to PFAS in her workplace.

18. Plaintiff did not know and, in the exercise of reasonable diligence, could not have known that these products contained PFAS or PFAS-containing materials. Plaintiff also did not know that PFAS accumulated in her body and blood.

19. As a result of working with and around Defendants' AFFF and bunker gear products, Plaintiff was diagnosed with thyroid cancer, which has caused Plaintiff to undergo medical treatment, and to suffer, and continue to suffer, severe personal injuries, pain, and emotional distress, including the fear of cancer recurrence.

20. As a result of Plaintiff's thyroid cancer diagnosis and required treatment, Plaintiff has incurred and will continue to incur significant medical expenses.

21. The injuries, pain, suffering, emotional distress and economic loss are proximately caused by Defendants' PFAS products.

22. To this day, Defendants' PFAS remain in Plaintiff's body, subjecting Plaintiff to ongoing exposure to PFAS chemicals and further increased risk of disease and cancer recurrence.

DEFENDANTS

23. The term "Defendant" or "Defendants" refers to all Defendants named herein jointly and severally.

24. Any and all references to a Defendant or Defendants in this Complaint include any predecessors, successors, parents, subsidiaries, affiliates and divisions of the named Defendants.

25. When reference is made in this Complaint to any act or omission of any of the Defendants, it shall be deemed that the officers, directors, agents, employees, or representatives of the defendants committed or authorized such act or omission, or failed to adequately supervise or properly control or direct their employees while engaged in the management, direction, operation, or control of the affairs of defendants, and did so while acting within the scope of their duties, employment or agency.

26. At all times relevant to this litigation, upon information and belief, each of the defendants designed, developed, manufactured, marketed and/or sold PFAS, AFFF, and/or bunker gear used throughout the country, including areas where Plaintiff has resided and worked.

27. Each of the Defendants designed, developed, manufactured, marketed and/or sold PFAS, AFFF, and/or bunker gear to which Plaintiff was exposed and directly and proximately caused Plaintiff to develop thyroid cancer, and to suffer severe personal injuries, pain, suffering, emotional distress, and economic loss.

28. Defendant **3M Company (f/k/a Minnesota Mining and Manufacturing Company)** (“3M”) is a Delaware Corporation and conducts business throughout the United States, with its principal place of business located at 3M Center, St. Paul Minnesota 55144.

29. 3M Company designed, developed, manufactured, distributed, released, trained users of, produced instructional materials on, promoted, marketed and/or sold PFAS, which were used in various products including AFFF and bunker gear, from the 1960s until 2002.

30. Defendant **AGC Chemicals Americas, Inc.** (“AGC Americas”) is a corporation organized and existing under the laws of Delaware, having a principal place of business in 5 East Uwchlan Avenue, Suite 201 Exton, PA 19341 United States.

31. AGC Americas and/or its affiliates operate throughout the United States,

manufacturing glass, electronic displays and chemical products, including resins, water and oil repellants, greenhouse films, silica additives, and various fluorointermediates used for manufacturing PFAS for use in AFFF products and bunker gear.

32. On information and belief, AGC is the North American subsidiary of AGC Inc. (f/k/a Asahi Glass, Co., Ltd.) and does business throughout the United States.

33. Defendant **Amerex Corporation** (“Amerex”) is an Alabama corporation and does business throughout the United States. Amerex has its principal place of business at 7595 Gadsden Highway, Trussville, Alabama 35173.

34. Amerex made, manufactured, distributed, marketed, and/or sold PFAS products.

35. Defendant **Archroma U.S., Inc.** (“Archroma”) is a Delaware corporation with its principal place of business located at 5435 77 Center Dr., #10, Charlotte, North Carolina 28217.

36. Upon information and belief, Archroma U.S., Inc. is a subsidiary of Archroma Management, LLC, and manufactured, sold, and supplied PFAS for use in AFFF sold throughout the United States. On information and belief, Archroma is a successor to Clariant Corporation, which manufactured and sold PFAS products.

37. Defendant **Arkema Inc.** (“Arkema”) is a corporation organized and existing under the laws of Pennsylvania, having a principal place of business at 900 First Avenue, King of Prussia, PA 19406. Arkema develops specialty chemicals and fluoropolymers.

38. Arkema and/or its predecessors manufactured PFAS products.

39. Arkema is a successor in interest to Atochem North American, Inc., Elf Atochem North America, Inc., and Atofina Chemicals, Inc. which also manufactured PFAS products.

40. Defendant **BASF Corporation** (“BASF”), is a corporation organized and existing under the laws of Delaware, having a principal place of business at 100 Park Avenue, Florham

Park, New Jersey 07932.

41. On information and belief, BASF Corporation is the successor in interest to Ciba-Geigy, Inc., Ciba Specialty Chemicals Company, and Ciba, Inc., a Swiss specialty Chemicals Company that manufactured fluorosurfactants containing PFOA used in AFFF.

42. Defendant **Buckeye Fire Equipment Company** (“Buckeye”) is a corporation organized and existing under the laws of Ohio, with its principal place of business at 110 Kings Road, Kings Mountain, North Carolina 28086.

43. Buckeye manufactured, distributed, and/or sold AFFF containing PFAS products.

44. Defendant **Carrier Fire & Security Americas Corp., Inc.**, (“Carrier Fire”) is a Delaware corporation with its principal place of business at 13995 Pasteur Boulevard, Palm Beach Gardens, Florida 33418.

45. Upon information and belief, Carrier Fire was a division of United Technologies Corporation.

46. Carrier Fire manufactured, sold, marketed, and/or distributed PFAS, and/or AFFF throughout the United States.

47. Carrier Fire was formerly known as UTC Fire & Security Americas Corporation, Inc., until in or around December 2020.

48. Defendant **Carrier Global Corporation** (“Carrier”) is a Delaware corporation with its principal place of business located at 13995 Pasteur Boulevard, Palm Beach Gardens, Florida 33418.

49. Upon information and belief, UTC is now a division of Carrier and manufactured and sold PFAS products. Upon information and belief, Carrier does and/or has done business throughout the United States.

50. Carrier inherited UTC's Fire & Security businesses, including the Chubb Fire and Kidde-Fenwal brands, when it was formed in March 2020. Carrier is now the parent corporation of Kidde-Fenwal Inc., a manufacturer of PFAS products.

51. Defendant **ChemDesign Products, Inc.** is a corporation organized and existing under the laws of Texas and having a principal place of business at 2 Stanton Street, Marinette, Wisconsin 54143.

52. ChemDesign Products, Inc. manufactured PFAS products for Tyco/Chemguard AFFF products.

53. Defendant **Chemguard, Inc.** is a corporation organized and existing under the laws of Texas, with its principal place of business at One Stanton Street, Marinette, Wisconsin 54143.

54. Upon information and belief, Chemguard is a subsidiary of Johnson Controls International PLC, and was acquired by Tyco International Ltd. in 2011.

55. Beginning in or around 1994, Chemguard manufactured, distributed, marketed and/or sold AFFF containing PFAS.

56. Defendant **Chemicals, Inc.** is a corporation organized and existing under the laws of the State of Texas, with its principal place of business located at 12321 Hatcherville, Baytown, Texas 77520.

57. Chemicals, Inc. designed, marketed, developed, manufactured, distributed, released, trained users, produced instructional materials, promoted, sold and/or otherwise handled and/or used in PFAS, and/or AFFF products that are used in firefighting training and response exercises which are the subject of this Complaint.

58. Defendant **Clariant Corporation** ("Clariant") is a corporation organized and

existing under the laws of New York, having a principal place of business at 4000 Monroe Road, Charlotte, North Carolina 28205.

59. On information and belief, Clariant was formerly known as Sandoz Chemicals Corporation. Clariant became Archroma Management LLC after it was acquired by SK Capital Partners and manufactured and sold PFAS products.

60. Defendant **Corteva, Inc.** (“Corteva”) is a corporation organized and existing under the laws of Delaware, having a principal place of business at 974 Centre Rd., Wilmington, Delaware 19805. Corteva is a successor in interest to DuPont Chemical Solutions Enterprise and holds assets and liabilities including DowDuPont’s agriculture and nutritional businesses.

61. Corteva designed, marketed, developed, manufactured, distributed, released, trained users of, produced instructional materials on, sold, and/or otherwise handled and/or used PFAS and PFAS related chemistries including those used in AFFF and bunker gear.

62. Defendant **Deepwater Chemicals, Inc.** (“Deepwater”) is a corporation organized under the laws of the State of Delaware, with its principal place of business located at 196122 E County Road 40, Woodward, Oklahoma 73801.

63. Upon information and belief, Deepwater designed, manufactured, marketed, distributed, released, trained users, produced instructional materials, promoted, sold and/or otherwise handled and/or used fluorosurfactants containing PFAS, and/or their chemical precursors for use in PFAS, and/or AFFF and bunker gear.

64. Defendant **Dupont de Nemours Inc.** (f/k/a DowDuPont, Inc.) is a corporation organized and existing under the laws of Delaware, having a principal place of business at 974 Centre Road, Wilmington, Delaware 19805.

65. Dupont de Nemours Inc. designed, marketed, developed, manufactured,

distributed, released, trained users of, produced instructional materials on, sold, and/or otherwise handled and/or used PFAS used in AFFF, bunker gear, and various other products.

66. On June 1, 2019, DowDuPont, Inc. separated its agriculture business through the spin-off Corteva.

67. Prior to the separation, DowDuPont owned Corteva as a wholly-owned subsidiary formed in February 2018.

68. On June 1, 2019, DowDuPont distributed a pro rata dividend of both issued and outstanding shares of Corteva common stock to DowDuPont shareholders.

69. Corteva holds certain Dow DuPont assets and liabilities including DowDuPont's agriculture and nutritional businesses.

70. On June 1, 2019 DowDuPont, the surviving entity after the spin-off of Corteva and another entity known as Dow, Inc., changed its name to DuPont de Nemours, Inc., to be known as DuPont ("New DuPont"). New DuPont retained assets in the specialty products business lines following the spin-offs, as well as the balance of the financial assets and liabilities of E.I. DuPont not assumed by Corteva.

71. Defendant **Dynax Corporation** ("Dynax") is a corporation organized and existing under the laws of Delaware, having a principal place of business at 79 Westchester Avenue, Pound Ridge, New York 10576 and an address for service of process at 103 Fairview Park Drive Elmsford, New York 10523-1544.

72. On information and belief, Dynax entered the AFFF business in 1991 and quickly became a leading global producer of fluorosurfactants and fluorochemical foam stabilizers. Dynax is a manufacturer and seller of PFAS products.

73. Dynax does and/or has done business throughout the United States.

74. Defendant **E.I. DuPont de Nemours & Company** (“DuPont” or “Old DuPont”) is a corporation organized and existing under the laws of Delaware, having a principal place of business is 974 Centre Road Wilmington, Delaware 19805.

75. Since the 1950s, DuPont has been involved in the production and sale of PFAS intermediaries for use in AFFF manufacturing. When 3M left the market, DuPont took on a larger role in the AFFF market.

76. DuPont has also manufactured, distributed, and sold PFAS products around the country pursuant to a nationwide marketing campaign.

77. DuPont is a successor in interest to DuPont Chemical Solutions Enterprise (“DuPont Chemical”), a Delaware corporation with a principal place of business located at 1007 Market Street Wilmington, Delaware 19898.

78. Upon information and belief, DuPont designed, marketed, developed, manufactured, distributed, released, trained users of, produced instructional materials on, sold and/or otherwise handled and/or used PFAS, AFFF and bunker gear.

79. From 1951, DuPont designed, manufactured, marketed, and sold PFAS products, including Teflon nonstick cookware, and more recently, PFAS feedstocks, such as Forafac 1157 N, for the use in the manufacture of AFFF products.

80. Based on information and belief, in 2001 or earlier, DuPont manufactured, produced, marketed, and sold PFAS chemicals and/or PFAS feedstocks to some or all of the AFFF product manufacturers for use in their AFFF and PFAS products.

81. DuPont Chemical was a member of the Telomer Research Program (“TRP”). As a member it was required to provide a list and volume of products it was selling in the United States on a yearly basis.

82. In a letter addressed to the Office of Pollution Prevention and Toxics (OPPT) Document Control Office, dated May 14, 2003 and signed by Stephen H. Korzeniowski, DuPont provided its Telomer-based sales products in the United States for the year 2002.

83. The letter, which was redacted and sent to the USEPA under its PFOA Stewardship Program, included AFFF sales volume, on an active ingredient pound basis, as well as its Chemical Abstracts Service (CAS) number and chemical name, and is included in the PFOA Stewardship Program Docket.

84. Defendants E.I. Du Pont de Nemours and Company; The Chemours Company; The Chemours Company FC, LLC; Corteva, Inc.; and DuPont de Nemours, Inc. are collectively referred to as “DuPont” throughout this Complaint.

85. Defendant **Fire Service Plus, Inc.** (“Fire Service Plus”) is a Georgia corporation that does business throughout the United States. Fire Service Plus has its principal place of business in Simi Valley, California. Fire Service Plus developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and AFFF.

86. Defendant **Mine Respirator Company, LLC** (“MRC”) is a Pennsylvania limited liability company with its registered agent located at 600 North Second Street, Harrisburg, Pennsylvania 17101.

87. MRC manufactured, sold, or distributed PFAS, AFFF, and/or bunker gear throughout the United States.

88. Defendant **Nation Ford Chemical Co.** (“Nation Ford”) is a corporation organized and existing under the laws of the State of South Carolina, with its principal place of business located at 2300 Banks Street, Fort Mill, South Carolina 29715.

89. On information and belief, Nation Ford designed, marketed, developed,

manufactured, distributed, released, trained users, produced instructional materials, sold, and/or otherwise handled and/or used PFAS and/or AFFF containing PFAS that are the subject of this Complaint.

90. Defendant **National Foam, Inc.** (“National Foam,” a/k/a Chubb National Foam) is a corporation organized and existing under the laws of Delaware, having a principal place of business at 141 Junny Road, Angier, North Carolina 27501.

91. National Foam manufactures AFFF agents, including Universal Gold and the Angus brand of products and is the successor-in-interest to Angus Fire Armour Corporation (collectively, “National Foam/Angus Fire”). At all relevant times, National Foam manufactured and sold PFAS products.

92. Defendant **Perimeter Solution, LP** (“Perimeter”) is a limited partnership organized and existing under the laws of the State of Delaware, with its principal place of business at 8000 Maryland Avenue, Suite 350, Clayton, Missouri 63105.

93. Perimeter does business throughout the United States.

94. In 2019, Perimeter purchased the Solberg products division of Amerex.

95. Solberg manufactured, sold, and/or distributed fire safety products, including AFFF.

96. Perimeter is the successor-in-interest to Solberg.

97. Perimeter manufactured, sold, marketed, and/or distributed PFAS, and/or AFFF throughout the United States.

98. Defendant **Raytheon Technologies Corporation** (“Raytheon Technologies”) is a corporation organized and existing under the laws of the State of Delaware and having a principal place of business located at 1000 Wilson Boulevard in Arlington, Virginia 22209.

Raytheon does and/or has done business throughout the United States and manufactured and sold PFAS and/or AFFF containing PFAS.

99. Raytheon Technologies is the parent company of UTC Fire and Security.

100. Upon information and belief, Raytheon Company and Collins Aerospace are subsidiaries of Raytheon Technologies.

101. Defendant **Royal Chemical Company, Ltd.** (“Royal Chemical”) is a corporation organized and existing under the laws of the State of Ohio, with its principal place of business at 8679 South Freeway Drive, Macedonia, Ohio 44056.

102. On information and belief, Royal Chemical manufactured, sold, marketed, and/or distributed PFAS, and/or AFFF throughout the United States.

103. Defendant **The Chemours Company** (“Chemours”) is a corporation organized and existing under the laws of Delaware, having a principal place of business at 1007 Market Street, Wilmington, Delaware 19889.

104. Chemours was a wholly owned subsidiary of DuPont. In 2015, DuPont spun off its “performance chemicals” business, including the manufacture, sale and distribution of PFAS-containing intermediates and PFAS products, including AFFF, to Chemours along with certain environmental liabilities.

105. Upon information and belief, at the time of the transfer of its performance chemicals business to Chemours, DuPont had been sued, threatened with suit and/or had knowledge of the likelihood of litigation to be filed regarding DuPont’s liability for damages and injuries arising from the manufacture and sale of PFAS and the products that contain PFAS.

106. Chemours designed, marketed, developed, manufactured, distributed, released, trained users of, produced instructional materials on, sold, and/or otherwise handled and/or used

PFAS products, including Teflon nonstick cookware, and more recently, PFAS, and PFAS feedstocks, such as Forafac 1157 N, for the use in the manufacture of AFFF products and bunker gear.

107. Defendant **The Chemours Company FC, LLC** (“Chemours FC”), a successor in interest to DuPont Chemical, is a corporation organized and existing under the laws of Delaware, having a principal place of business at 1007 Market Street Wilmington, Delaware 19899.

108. The Chemours Company FC LLC is a subsidiary to The Chemours Company, which manufactured and distributed PFAS and related PFAS to AFFF and bunker gear manufacturers.

109. In July 2015, DuPont spun off its chemicals division by creating Chemours as a new publicly traded company, once wholly owned by DuPont. By mid-2015, DuPont had turned over its perfluorinated chemical liabilities into the lap of the new Chemours.

110. Defendant **Tyco Fire Products L.P.** (“Tyco”) is a limited partnership organized under the laws of Pennsylvania, with its principal place of business at 1400 Pennbrook Parkway, Lansdale, Pennsylvania 19446.

111. Upon information and belief, Tyco is a wholly owned subsidiary of Johnson Controls International PLC, an Irish public limited company listed on the New York Stock Exchange [NYSE: JCI].

112. Tyco is the successor in interest of The Ansul Company (“Ansul”), having acquired Ansul in 1990. Beginning in or around 1975, Ansul manufactured and/or distributed and sold AFFF and PFAS products.

113. After Tyco acquired Ansul in 1990, Tyco/Ansul continued to manufacture, distribute and sell AFFF that contained PFAS products.

114. Upon information and belief, Tyco acquired the Chemguard brand in 2011 and continues to sell Chemguard AFFF and PFAS products through its Chemguard Specialty Chemicals division.

115. Defendant **United Technologies Corporation** (“United Technologies”) is a foreign corporation organized and existing under the laws of the State of Delaware and does business throughout the United States. United Technologies has its principal place of business at 8 Farm Springs Road, Farmington, Connecticut 06032.

116. United Technologies designed, marketed, developed, manufactured, distributed, released, trained users of, produced instructional materials on, sold and/or otherwise handled and/or used PFAS products.

117. Defendant **UTC Fire & Security Americas Corporation, Inc.** (“UTC”) is a Delaware corporation with its principal place of business at 13995 Pasteur Blvd., Palm Beach Gardens, Florida 33418.

118. Upon information and belief, UTC was a division of United Technologies Corporation. UTC does and/or has done business throughout the United States and manufactured and sold PFAS products.

119. It was foreseeable to all Defendants that the PFAS chemicals and/or precursors or derivatives they sold into the United States would contaminate the environment, including surface and ground waters in areas where Plaintiff has resided.

120. Defendant **AllStar Fire Equipment** (“AllStar”) is a California corporation that does business throughout the United States. AllStar has its principal place of business in Arcadia, California.

121. Upon information and belief, AllStar developed, manufactured, marketed,

distributed, released, sold, and/or used PFAS and/or bunker gear containing PFAS.

122. Defendant **CB Garment, Inc.** (d/b/a “CrewBoss”) is an Oregon corporation that does business throughout the United States. CrewBoss has its principal place of business in Eugene, Oregon.

123. CrewBoss developed, manufactured, marketed, distributed, released, sold, and/or used PFAS and/or bunker gear containing PFAS.

124. Defendant **Fire-Dex, LLC** (“Fire-Dex”) is a Delaware corporation that does business throughout the United States. Fire-Dex has its principal place of business in Medina, Ohio.

125. Fire-Dex developed, manufactured, marketed, distributed, released, sold, and/or used PFAS and/or bunker gear containing PFAS.

126. Defendant **Globe Manufacturing Company, LLC** (“Globe”) is a New Hampshire corporation that does business throughout the United States. Globe has its principal place of business in Pittsfield, New Hampshire.

127. Globe developed, manufactured, marketed, distributed, released, sold, and/or used PFAS and/or bunker gear containing PFAS. Defendant Mine Safety Appliance Company acquired Globe Holding Company, LLC and its subsidiaries (collectively, “MSA/Globe”) in 2017 and continues to do business under the Globe name.

128. Defendant **Honeywell Safety Products USA, Inc.** (“Honeywell”) is a Delaware corporation that does business throughout the United States. Honeywell has its principal place of business in Charlotte, North Carolina.

129. Honeywell developed, manufactured, marketed, distributed, released, sold, and/or used PFAS and/or bunker gear containing PFAS.

130. Defendant **Innotex Corp.** (“Innotex”) is a Delaware corporation that does business throughout the United States. Innotex has its principal place of business in Ohatchee, Alabama.

131. Innotex developed, manufactured, marketed, distributed, released, sold, and/or used PFAS and/or bunker gear containing PFAS.

132. Defendant **Lion Group, Inc.** (“Lion”) is an Ohio corporation that does business throughout the United States. Lion has its principal place of business in Dayton, Ohio.

133. Lion developed, manufactured, marketed, distributed, released, sold, and/or used PFAS and/or bunker gear containing PFAS.

134. Defendant **L.N. Curtis & Sons** (“LN Curtis”) is a California corporation that does business in throughout the United States. LN Curtis has its principal place of business is Walnut Creek, California.

135. LN Curtis developed, manufactured, marketed, distributed, released, sold, and/or used PFAS and/or bunker gear containing PFAS.

136. Defendant **Mallory Safety and Supply, LLC** (“Mallory”) is a California corporation that does business throughout the United States. Mallory has its principal place of business in Longview, Washington.

137. Mallory developed, manufactured, marketed, distributed, released, sold, and/or used PFAS and/or bunker gear containing PFAS.

138. Defendant **Municipal Emergency Services, Inc.** (“MES”) is a Delaware corporation that does business throughout the United States. MES has its principal place of business in Sandy Hook, Connecticut.

139. MES developed, manufactured, marketed, distributed, released, sold, and/or used

PFAS and/or bunker gear containing PFAS.

140. Defendant **Milliken & Company** (“Milliken”) is a Delaware corporation that does business throughout the United States. Milliken has its principal place of business in Spartanburg, South Carolina.

141. Milliken developed, manufactured, marketed, distributed, released, sold, and/or used PFAS and/or bunker gear containing PFAS.

142. Defendant **PBI Performance Products, Inc.** (“PBI”) is a Delaware corporation that does business throughout the United States. PBI has its principal place of business in Charlotte, North Carolina.

143. PBI developed, manufactured, marketed, distributed, released, sold, and/or used PFAS and/or bunker gear containing PFAS and/or AFFF containing PFAS.

144. Defendant **Ricochet Manufacturing Co., Inc.** (“Ricochet”) is a Pennsylvania corporation that does business throughout the United States. Ricochet has its principal place of business in Philadelphia, Pennsylvania.

145. Ricochet developed, manufactured, marketed, distributed, released, sold, and/or used PFAS and/or bunker gear containing PFAS.

146. Defendant **Safety Components Inc.** (“SCI”) is a Delaware corporation that does business throughout the United States. SCI has a principal place of business in Greenville, South Carolina.

147. SCI developed, manufactured, marketed, distributed, released, sold, and/or used PFAS and/or bunker gear containing PFAS.

148. Defendant **Southern Mills, Inc.** (“Southern Mills”) is a Georgia corporation and does business throughout the United States. Southern Mills has its principal place of business in,

Union City, Georgia.

149. Southern Mills developed, manufactured, marketed, distributed, released, sold, and/or used PFAS and/or bunker gear containing PFAS.

150. Defendant **StedFast USA, Inc.** (“StedFast”) is a Delaware corporation that does business throughout the United States. StedFast has its principal place of business in Piney Flats, Tennessee.

151. StedFast developed, manufactured, marketed, distributed, released, sold, and/or used PFAS and/or bunker gear containing PFAS.

152. Defendant **Southern Mills, Inc. d/b/a Ten Cate Protective Fabrics USA** (“Tencate”) is a Georgia corporation that does business throughout the United States, including within Oklahoma. Tencate has its principal place of business in Senoia, Georgia. Tencate developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, bunker gear containing PFAS and/or AFFF containing PFAS.

153. Defendant **W. L. Gore & Associates, Inc.** (“Gore”) is a Delaware corporation that does business throughout the United States. Gore has its principal place of business in Newark, Delaware.

154. Gore developed, manufactured, marketed, distributed, released, sold, and/or used PFAS and/or bunker gear containing PFAS.

155. Defendant **Veridian Limited d/b/a Veridian Fire Protective Gear** (“Veridian”) is an Iowa corporation that does business throughout the United States. Veridian has its principal place of business in Spencer, Iowa.

156. Veridian developed, manufactured, marketed, distributed, released, sold, and/or used PFAS and/or bunker gear containing PFAS.

157. Defendant **Witmer Public Safety Group, Inc.** (d/b/a “The Fire Store”) is a Pennsylvania corporation that does business throughout the United States. The Fire Store has its principal place of business in Coatesville, Pennsylvania.

158. The Fire Store developed, manufactured, marketed, distributed, released, sold, and/or used PFAS and/or bunker gear containing PFAS and/or AFFF containing PFAS.

159. Plaintiff’s unknowing exposure to PFAS chemicals directly and proximately caused Plaintiff to develop thyroid cancer, and to suffer severe personal injuries, pain, suffering, and emotional distress.

FACTUAL ALLEGATIONS

1. PER- AND POLYFLUOROALKYL CHEMICALS

160. PFOS, PFOA, PFNA, PFBS, PFHxS and HPFO (Gen-X) fall within a class of chemicals known as per- and polyfluoroalkyl substances (“PFAS”). PFAS are found within the PFAS products defined above. For purposes of this complaint, the term PFAS will refer to the chemicals detailed in this paragraph collectively as well as their precursors and derivatives.

161. PFAS products are man-made chemicals composed of a chain of carbon atoms in which all but one of the carbon atoms are bonded to fluorine atoms, and the last carbon atom is attached to a functional group. The carbon-fluorine bond is one of the strongest chemical bonds, which is a reason why these molecules are so persistent. PFAS products that contain eight an eight-carbon chain are sometimes referred to as “C8”.

162. PFAS are non-naturally-occurring, man-made chemicals that were first developed in the late 1930s to 1940s and put into large scale manufacture and use by the early 1950s.

163. PFAS are water soluble and can migrate readily from soil to groundwater, where they can be transported long distances.

164. PFAS are thermally, chemically and biologically stable and resistant to biodegradation, atmospheric photo- oxidation, direct photolysis and hydrolysis.

165. PFAS are readily absorbed in animal and human tissues after oral exposure, dermal exposure, and inhalation and accumulate in the serum, kidney, and liver.

166. PFAS have been found globally in water, soil, and air as well as in human food supplies, breast milk, umbilical cord blood, and human blood serum.

167. PFAS are persistent in the human body. An acute exposure can result in a body burden that persists for years and can increase with additional exposures.

168. Prior to the commercial development and large-scale manufacture and use of PFAS products by Defendants, no such PFAS had been found, detected or were present in the environment.

169. Defendants' manufacturing and/or distributing of PFAS products resulted in the release of PFAS into the air, surface waters, ground water, soil and landfills.

170. PFAS products are associated with adverse side effects.

171. Regulatory agencies throughout the world, including The United States Environmental Protection Agency ("EPA"), The World Health Organization ("WHO"), the International Agency for Research on Cancer ("IARC"), Health Canada, and numerous others have concluded that exposure to PFAS is harmful to human health and cause an increased risk of certain diseases, including but not limited to developmental effects to fetuses during pregnancy or to breastfed infants (e.g., low birth weight, accelerated puberty, skeletal variations), cancer (e.g., testicular, kidney, bladder), liver effects (e.g., tissue damage), immune effects (e.g., antibody production and immunity), thyroid effects and other effects (e.g., cholesterol changes).

172. PFAS are recognized as a likely human carcinogen.

173. Based upon information and belief, there is no safe level of exposure to PFAS.

174. On June 15, 2022, the United States EPA issued Interim Updated PFOA and PFOS Health Advisories, which identify the concentration of chemicals in drinking water at or below which adverse health effects are not anticipated to occur. The health advisories weigh the available science and consider lifetime exposures. The EPA concluded that some negative health effects may occur with concentrations of PFOA or PFOS in water that are near zero.

175. At the same time, the EPA also issued final health advisories for PFBS and HFPO. Current EPA Health Advisory Levels have been established at 0.004 parts per trillion (ppt) for PFOA (interim); 0.02 ppt for PFOS (interim); 10 ppt for HPFO (final), and 2,000 ppt for PFBS (final).

176. In March of 2023, the EPA issued a proposed Maximum Contaminant Level (“MCL”) of 4 ppt for PFOS and 4 ppt for PFOA as part of a proposed PFAS National Primary Drinking Water Regulation (NPDWR). Additionally, the EPA proposed a 1.0 Hazard Index MCL to regulate any mixture containing PFNA, PFHxS, PFBS, and/or HPFO-DA (Gen-X) chemicals. EPA’s proposed NPDWR was finalized in April of 2024, creating enforceable MCLs for these six PFAS chemicals.

2. AQUEOUS FILM-FORMING FOAM

177. AFFF is a type of water-based foam that was first developed in the 1960s to extinguish flammable liquid fuel fires at airports and military bases, among other places.

178. The AFFF designed, manufactured, marketed, distributed, used and/or sold by Defendants contained PFAS, including their precursors and/or derivatives.

179. PFOS, PFHxS, PFOA, PFBS and/or the chemical precursors to these compounds contained in 3M’s AFFF were manufactured by 3M’s patented process of electrochemical

fluorination (“ECF”).

180. All other Defendants manufactured and/or used telomerized PFAS and/or surfactants including PFAS precursors and intermediaries, for use in AFFF and bunker gear. These PFAS included PFOA and/or chemical precursors and intermediaries to PFOA. Based upon information and belief, these products did not contain PFOS, PFBS, or PFHxS.

181. When used as the Defendants intended and directed, Defendants’ AFFF and bunker gear releases PFAS and/or their precursor chemicals into the environment.

182. Once PFAS are in the environment, these chemicals do not hydrolyze, photolyze, or biodegrade under typical environmental conditions and are extremely persistent in the environment. Because of their persistence, they are widely distributed throughout soil, air, and groundwater.

183. Due to the chemicals’ persistent nature, among other things, these chemicals have caused, and continue to cause injury and damage to Plaintiff.

184. Due to the persistent nature of PFAS chemicals, these chemicals are still present in Plaintiff’s body, causing increased risk of further injury and damage to Plaintiff.

3. FIRE FIGHTER BUNKER GEAR

185. During their training, and when responding to fires, fire fighters wear bunker gear intended to provide a degree of thermal, chemical, and biological protection.

186. Bunker gear includes items such as helmets, hoods, jackets, pants and suspenders, boots, and gloves. Each component of the jacket and pants are made of an outer layer, as well as several inner layers that include a moisture barrier and thermal liner which are meant to protect

the fire fighter from ambient heat.¹⁵⁷

187. Upon information and belief, bunker gear and its moisture barriers contain PFAS, including PFAS which degrade into PFOA.¹⁵⁸

188. A June 2020 study of bunker gear by researchers at the University of Notre Dame analyzed 30 new and used bunker gear jackets and pants originally marketed, distributed and sold in 2008, 2014, and 2017, by six bunker gear makers, including Defendants MSA/Globe and Lion, and found high levels of PFAS in bunker gear worn, used, or handled by fire fighters.¹⁵⁹

189. This study, which looked at used and unused bunker gear to assess the probability of PFAS migrating from the moisture barrier layer to other parts of the gear, found that concentrations of PFAS in the thermal liner were different in used versus unused bunker gear, suggesting that PFAS migrated from the moisture barrier to the thermal liner, which contacts fire fighters' skin.¹⁶⁰

190. In a more recent study done at Oregon State University by Derek Muensterman, extractable volatile PFAS were found at exceedingly high concentrations in fire fighter bunker gear as compared to earlier investigations of non-volatile PFAS like PFOA and PFOS. The highest level of these volatile PFAS were determined to originate from the PTFE moisture barrier.

¹⁵⁷ *What Materials Go Into Making Turnout Gear?*, Globe MSA Safety Website, <https://globe.msasafety.com/selecting-your-gear/materials> (last visited May 15, 2023).

¹⁵⁸ Technical Fact Sheet - Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA), United States Environmental Protection Agency, (Nov. 2017), https://19january2021snapshot.epa.gov/sites/static/files/2017-12/documents/ffrrofactsheets_contaminants_pfos_pfoa_11-20-17_508_0.pdf (last visited May 15, 2023).

¹⁵⁹ Graham Peaslee et al., *Another Pathway for Firefighter Exposure to Per- and Polyfluoroalkyl Substances: Firefighter Textiles*, Environmental Science & Technology Letters 2020, 7, 8, 594-599 (Ecotoxicology and Public Health) (June 23, 2020) (hereinafter, "the Notre Dame Turnout Study").

¹⁶⁰ *Id.*

Bioavailability of volatile PFAS is considered high, as the inhalation route is of concern, especially given the application of the products which are worn by the fire fighters on their bodies for extended durations.

191. When exposed to heat, PFAS chemicals in the bunker gear off-gas, break down, and degrade into highly mobile and toxic particles and dust,¹⁶¹ exposing fire fighters to PFAS chemicals, particles and dust, including through skin contact/absorption, ingestion (e.g., hand-to-mouth contact) and/or inhalation.¹⁶² Further fire fighter exposure to these highly mobile and toxic materials occurs through normal workplace activities, because particles or dust from their bunker gear spread to fire vehicles and fire stations, as well as fire fighters' personal vehicles and homes.¹⁶³

192. Such workplace exposure to PFAS or PFAS-containing materials has been found to be toxic to humans. For example, in an internal memo dated July 31, 1980, DuPont officials described measures that were needed to prevent workplace exposure to PFOA, which they knew could permeate all protective materials, and noted that PFOA's toxicity varied depending on the exposure pathway, acknowledging that ingestion was "slightly toxic," dermal contact was "slightly to moderately toxic" and inhalation was "highly toxic."¹⁶⁴ The memo concluded "continued exposure is not tolerable."¹⁶⁵

4. DEFENDANTS' KNOWLEDGE OF PFAS DANGERS TO PUBLIC HEALTH AND THE ENVIRONMENT

¹⁶¹ A. S. Young et al., *Per- and Polyfluoroalkyl Substances (PFAS) and Total Fluorine in Fire Station Dust*, J. Expo. Sci. Environ. Epidemiology (2021), <https://doi.org/10.1038/s41370-021-00288-7> (last visited May 15, 2023).

¹⁶² *Id.*

¹⁶³ *Id.*

¹⁶⁴ Robert Bilott, *Exposure* (2019), 174.

¹⁶⁵ *Id.* at 175.

193. Dupont had been studying the potential toxicity of PFOA since at least the 1960s and knew it was contaminating drinking water drawn from the Ohio River and did not disclose to the public or to government regulators what they knew about the substance's potential effects on humans, animals, or the environment.¹⁶⁶

194. On information and belief, by at least the 1970s Defendants knew or should have known, among other things, that (a) PFOA and PFOS are toxic; and (b) when sprayed in the open environment per the instructions given by the manufacturer, PFOA, PFOS and other PFAS are mobile and persistent, readily migrate through the subsurface, mix easily with ground water, resist natural degradation, render drinking water unsafe and/or non-potable, and can be removed from soil and public drinking water supplies only at substantial expense.

195. Upon information and belief, Defendants concealed from the public and government agencies their knowledge of the risk of harm posed by PFAS.

196. In 1975, Defendant 3M concluded that PFOS was present in the blood of the general population. Since PFOA and PFOS are not naturally occurring, this finding should have alerted 3M and the other Defendant manufacturers to the possibility that their products were a source of this PFOS. The finding also should have alerted 3M to the possibility that PFOS might be mobile, persistent, bioaccumulative, and biomagnifying, as those characteristics could explain the absorption of PFOS in blood from 3M's products.

197. In 1976, Defendant 3M found PFOA in the blood of its workers. This finding should have alerted 3M and the other Defendant manufacturers to the same issues raised by the findings regarding PFOS in the prior year.

¹⁶⁶ See, e.g., Fred Biddle, "DuPont confronted over chemical's safety," *Wilmington News Journal* (Apr. 13, 2003). The *Wilmington News Journal* is published in Wilmington, Ohio.

198. A 1978 study by 3M showed that PFOA reduced the survival rate of fathead minnow fish eggs.

199. Other studies by 3M in 1978 showed that PFOS and PFOA are toxic to rats, and that PFOS is toxic to monkeys. In one study in 1978, all monkeys died within the first few days of being given food contaminated with PFOS.

200. Studies by 3M after the 1970s also showed adverse effects from exposure to PFOA and PFOS.

201. In a 1983 study, for example, 3M found that PFOS caused the growth of cancerous tumors in rats.

202. A study proposal by 3M in 1983 stated that the resistance to degradation of PFOS and PFOA made them “potential candidates for environmental regulations, including further testing requirements under laws such as the Toxic Substances Control Act.” 3M Environmental Laboratory (EE & PC), Fate of Fluorochemicals - Phase II, at p.6 (E. A. Reiner, ed. May 20, 1983).

203. A 1997 material safety data sheet (“MSDS”) for a non-AFFF product made by 3M listed its only ingredients as water, PFOA, and other per-fluoroalkyl substances and warned that the product includes “a chemical which can cause cancer.” The MSDS cited “1983 and 1993 studies conducted jointly by 3M and DuPont” as support for this statement. On information and belief, 3M's MSDSs for AFFF did not provide similar warnings.

204. Federal law requires chemical manufacturers and distributors to immediately notify the EPA if they have information that “reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment.” Toxic Substances Control Act (“TSCA”) § 8(e), 15 U.S.C. § 2607(e).

205. 3M did not comply with its duty under the TSCA, and in April 2006 it agreed to pay the EPA a penalty of more than \$1.5 million for its failure to disclose studies regarding PFOS or PFOA and other per-fluoroalkyl substances dating back decades, among other things.

206. By December 2005, the EPA uncovered evidence that DuPont concealed the environmental and health effects of PFOA, and the EPA announced the “Largest Environmental Administrative Penalty in Agency History.”¹⁶⁷ The EPA fined DuPont for violating the Toxic Substances Control Act “Section 8(e)—the requirement that companies report to the EPA substantial risk information about chemicals they manufacture, process or distribute in commerce.”¹⁶⁸

207. By July 2011, Old DuPont could no longer credibly dispute the human toxicity of PFOA, which it continued to manufacture. The “C8 Science Panel” created as part of the settlement of a class action over Old DuPont’s releases from the Washington Works plant had reviewed the available scientific evidence and notified Old DuPont of a “probable link” between PFOA exposure and the serious (and potentially fatal) conditions of pregnancy-induced hypertension and preeclampsia.¹⁶⁹ By October 2012, the C8 Science Panel had notified Old DuPont of a probable link between PFOA and five other conditions—high cholesterol, kidney cancer, thyroid disease, testicular cancer, and ulcerative colitis.

¹⁶⁷ U.S. Envtl. Prot. Agency, Reference News Release, “EPA Settles PFOA Case Against DuPont for Largest Environmental Administrative Penalty in Agency History” (Dec. 14, 2005), *available at* [https://www.epa.gov/archive/epapages/newsroom_archive/newsreleases/fdcb2f665cac66bb852570d7005d6665.html#:~:text=\(Washington%2C%20D.C.%2DDec.,to%20comply%20with%20federal%20law.](https://www.epa.gov/archive/epapages/newsroom_archive/newsreleases/fdcb2f665cac66bb852570d7005d6665.html#:~:text=(Washington%2C%20D.C.%2DDec.,to%20comply%20with%20federal%20law.) (last visited June 16, 2023).

¹⁶⁸ *Id.*

¹⁶⁹ See The C8 Science Panel, Status Report: PFOA (C8) exposure and pregnancy outcome among participants in the C8 Health Project (July 15, 2011), *available at* http://www.c8sciencepanel.org/pdfs>Status_Report_C8_and_pregnancy_outcome_15July2011.pdf (last visited June 16, 2023).

208. In July 2015, Old DuPont spun off its chemicals division by creating Chemours as a new publicly-traded company, once wholly owned by Old DuPont. By mid-2015, Old DuPont had dumped its perfluorinated chemical liabilities into the lap of the new Chemours.

209. On information and belief, all Defendants knew or should have known that in its intended and/or common use, PFAS, bunker gear containing PFAS and/or AFFF containing PFAS would very likely injure and/or threaten public health and the environment. On information and belief, this knowledge was accessible to all Defendants. For example, in 1970 a well-established firefighting trade association was alerted to the toxic effects on fish of a chemical compound related to PFOS. On information and belief, at least the following Defendants are and/or were members of this trade association: 3M, Tyco/Ansul, Chemguard, and National Foam/Angus.

210. Additionally, on information and belief, all Defendants knew or should have known that their PFAS, AFFF and/or bunker gear contained PFAS, easily dissolve in water, because the products were designed to be mixed with water; are mobile, because the products were designed to quickly form a thin film; resist degradation, because that is the nature of the products' chemical composition, and the products had long shelf-lives; and tend to bioaccumulate, because studies regarding the presence of substances with carbon-fluorine bonds in the blood of the general population were publicly available beginning in at least 1976.

211. Defendants' products created major waste management problems which they absolved themselves of, providing their customers with no practical guidance and instructions on how to deal with the proper disposal/destruction of PFAS within water sources, biosolids and soil.

212. Some or all of the Defendants understood how stable the fluorinated surfactants

used in their PFAS, AFFF, and/or bunker gear formulations are when released into the environment from the first sale to their customers, but none warned customers nor provided reasonable instruction on how to manage wastes generated from use of their products. The persistence and contaminating nature of the perfluorinated surfactant 3M made that went into its PFAS, and/or AFFF products was well understood prior to the commercial applications of these surfactants at 3M's Cottage Grove facility in Minnesota.

213. The inventor of 3M's surfactants was J. H. Simons. Simons' 1948 patent (Simons¹⁷⁰) reports: PFCs are "non-corrosive, and of little chemical reactivity"; "do not react with any of the metals at ordinary temperatures and react only with the more chemically reactive metals such as sodium, at elevated temperatures."

214. Simons reported that the surfactants that 3M specified for its AFFF do not react with other compounds or reagents due to the blanket of fluorine atoms surrounding the carbon skeleton of the molecule. These highly stable chemicals were developed to provide non-reactive solid and liquid chemicals with low surface tensions that could withstand high temperatures and would not react with highly reactive materials such as oxygen (see Simons¹⁷¹, Bryce¹⁷²). 3M understood that the stability of the carbon-to-fluorine bonds and the lack of attraction for other chemical species prevent these surfactants from undergoing further chemical reactions or degrading under natural processes in the environment (see Simons 1950 published work¹⁷³).

215. Bryce, an employee of 3M, published an authoritative treatise stating "[t]his chemical stability also extends itself to all types of biological processes; there are no known

¹⁷⁰ Simons, J. H., U.S. Patent No. 2,447,717. August 24, 1948.

¹⁷¹ Simons, J. H., 1949. Fluorocarbons. Scientific American, Inc., 181(5): 44-47.

¹⁷² Bryce, H. G., 1964. Industrial and Utilitarian Aspects of Fluorine Chemistry. Fluorine Chemistry. 5(4): 295-498.

¹⁷³ Simons, J. H., 1950. Fluorocarbons and Their Production. Fluorine Chemistry, 1(12): 401-422.

biological organisms that are able to attack the carbon-fluorine bond in a fluorocarbon.” (Bryce (1964)).

216. The thermal stability of 3M’s surfactants was understood prior to commercial production. In 1947, two researchers reported that fluorocarbon compounds did not degrade at temperatures as high as 500° C (932°F), even in the presence of catalytic materials (Grosse, et al.¹⁷⁴). Simons’ patent application further discloses that the chemicals she invented were thermally stable at temperatures up to 750° C (1382° F) (*see* Simons (1948); Simons et al., (1949)). These chemicals are non-reactive and thermally stable due to the strength and stability of the carbon-to-fluorine bonds (Simons (1949); Bryce (1950)¹⁷⁵). Additional research by 3M expanded the understanding of the thermal stability of perfluorocarbon compounds. Bryce explained that the fracture of the carbon-to-carbon bonds may take place at very high temperatures from 600 to 1000° C (1112 to 1832° F) depending on the carbon chain length. She also reported that the carbon-to-fluorine bond is much stronger and can require temperatures of 1200° C (2192° F) to break (Bryce, 1964).

217. Nowhere in any Material Safety Data Sheet for any of the Defendants’ products is information on the thermal stability of their surfactants disclosed. Failure to disclose knowledge of how stable the chemical ingredients in the PFAS, AFFF, and/or bunker gear products are to customers is a failure to warn just how indestructible the surfactant ingredients are when released. The remarkable thermal stability of the surfactants used in Defendants’ formulations means that there is a risk the customer has to deal with because the surfactant

¹⁷⁴ Grosse, A. V., et al., 1947. Properties of Fluorocarbons. Industrial and Engineering Chemistry, 39(3): 367-374. March.

¹⁷⁵ Bryce, T. J., 1950. Fluorocarbons - Their Properties and Wartime Development. Fluorine Chemistry, 1(13): 423-462.

ingredients are incredibly stable. The surfactant additive is so stable that it is indestructible under normal use and environmental conditions; facts which are known by PFAS, AFFF and/or bunker gear manufacturers and not apparent to the users of these products.

218. Defendant 3M understood from the earliest days it acquired the Simons' patents that the surfactants it commercialized had extremely limited reactivity and that the high thermal stability of the perfluorinated carbon chain inhibited degradation in the environment (Bryce, 1950). The breaking of a carbon-to-fluorine bond requires the input of large amounts of energy to overcome the chemical bond between carbon and fluorine. Chemical and physical processes occurring in nature lack sufficient energy to break carbon-to-fluorine bonds and without this input of energy, the carbon-to-fluorine bonds remain intact.

219. Bryce wrote, "This chemical stability also extends itself to all types of biological processes; there are no known biological organisms that are able to attack the carbon-fluorine bond in a fluorocarbon" (Bryce, 1964). 3M understood the chemical stability of the carbon-to-fluorine bond; it knew that its surfactants were immune to chemical and biological degradation in soils and ground water.

220. A 1971 internal memo by H.G. Bryce states that "the thesis that there is 'no natural sink' for fluorocarbons obviously demands some attention." Hence, 3M understood at the very least that when its AFFF product was released to the environment, it would essentially never degrade.¹⁷⁶

221. In natural environments, the surfactants do not undergo degradation of the carbon-to-fluorine bonds of the perfluorinated carbon chain. The non-fluorinated, functional group of the chemical will partially degrade, yielding recalcitrant products such as PFOS, PFOA, and PFBA,

¹⁷⁶ 3M, 1978 [3MA10036129].

which then resist further degradation. Basic weathering and degradation reactions, such as hydrolysis, occur at the non-fluorinated, functional group end of the molecule, producing the original fluorocarbon compound (Pearlson¹⁷⁷). Depending on the surfactant these reduce to PFOS, PFOA, or PFBA.

222. Defendant 3M knew that the perfluorinated components in its AFFF product(s) when released to the environment would not degrade the perfluorinated carbon structure, but would remain intact and persist (Bryce, 1950). Nearly 30 years later and after the establishment of a robust market of AFFFs using such ingredients, Defendant 3M finally got around to looking at the environmental risks its products pose. A 1979 3M study reports on its surfactant FC95, citing multiple studies on toxicity and biodegradability.¹⁷⁸ The study reports that “F-95 was found to be completely resistant to biological test conditions... it appears that waterways are the environmental sink for FC95...”¹⁷⁹

223. A 1978 3M biodegradation study reports “... the results of the quite extensive study strongly suggests that FM3422 is likely to persist in the environment for extended period unaltered by metabolic attack.”¹⁸⁰

224. Also, in 1979 Defendant 3M carried out a comprehensive biodegradation and toxicity study covering investigations between 1975 and 1978.¹⁸¹ More than 10 years after 3M began selling its AFFF products it wrote “there has been a general lack of knowledge relative to the environmental impact of these chemicals,” and ominously disclosed, “[i]f these materials are

¹⁷⁷ Pearlson, W. H., 1950. Fluorocarbon Derivatives. *Fluorine Chemistry*, 1(14): 463-522.

¹⁷⁸ 3MA10066577.

¹⁷⁹ *Id.*

¹⁸⁰ 3MA00717615.

¹⁸¹ 3MA00326828.

not biodegradable, what is their fate in the environment?”¹⁸²

225. Defendants failed to comply with their obligations to notify EPA about the “substantial risk of injury to health or the environment” posed by their AFFF products containing PFAS. See TSCA § 8(e).

226. In 1980, 3M published data in peer-reviewed literature showing that humans retain PFOS in their bodies for years. Based on that data, 3M estimated that it could take a person up to 1.5 years to clear just half of the accumulated PFOS from their body after all exposures had ceased.

227. By the early 1980s, the industry suspected a correlation between PFOS exposure and human health effects. Specifically, manufacturers observed bioaccumulation of PFOS in workers’ bodies and birth defects in children of workers.

228. In 1981, DuPont tested for and found PFOA in the blood of female plant workers in Parkersburg, West Virginia. DuPont observed and documented pregnancy outcomes in exposed workers, finding two of seven children born to female plant workers between 1979 and 1981 had birth defects—one an “unconfirmed” eye and tear duct defect, and one a nostril and eye defect.

229. Beginning in 1983, 3M documented a trend of increasing levels of PFOS in the bodies of 3M workers. In an internal memo, 3M’s medical officer warned “we must view this present trend with serious concern. It is certainly possible that … exposure opportunities are providing a potential uptake of fluorochemicals that exceeds excretion capabilities of the body.”

230. Based on information and belief, in 2000, under pressure from the EPA, 3M announced that it was phasing out PFOS and U.S. production of PFOS; 3M’s PFOS-based AFFF

¹⁸² *Id.*

production did not fully phase out until 2002.

231. Defendants also knew or reasonably should have known that PFOA and PFOS could be absorbed into the lungs and gastrointestinal tract, potentially causing severe damage to the liver, kidneys, and central nervous system, in addition to other toxic effects, and that PFOA and PFOS are known carcinogens which cause genetic damage.

232. Notwithstanding this knowledge, Defendants negligently and carelessly: (1) designed, manufactured, marketed, distributed, and/or sold PFAS, AFFF and/or bunker gear; (2) failed to issue reasonable instructions on how PFAS should be used and disposed of in AFFF and/or bunker gear; (3) failed to recall and/or warn the users of PFAS products, negligently designed products containing or degrading into PFOA and/or PFOS, of the dangers of surface water, soil, and groundwater contamination as a result of standard use and disposal of these products; and (4) further failed and refused to issue the appropriate warnings and/or recalls to the users of PFAS products, notwithstanding the fact that Defendants knew the foreseeable identities of the purchasers and end-users of the PFAS products, as well as its final fate in water and humans.

A. PFAS IN BUNKER GEAR

233. Founded in 1918, Defendant MSA/Globe began manufacturing, marketing, and selling bunker gear with DuPont's NOMEX® PFAS-containing flame resistant fabric in 1966. MSA/Globe (under the Globe name) continues to manufacture, market, and sell bunker gear using PFAS-containing fabrics supplied by its partners, DuPont, Gore, Tencate, and PBI.¹⁸³

234. Defendant Lion began to manufacture, market, and sell bunker gear in 1970. Since

¹⁸³ See *Globe History*, Globe MSA Safety Website, <https://us.msasafety.com/about-globe/history> (last visited May 15, 2023); *Turnout Gear Materials*, Globe MSA Safety Website, <https://globe.msasafety.com/materials> (last visited May 15, 2023).

its founding, and continuing through to the present, Lion makes, markets, and sells bunker gear using PFAS-containing fabrics, including Teflon®F-PPE-treated thermal lining material supplied by Defendants DuPont's NOMEX® PFAS-containing flame/water/oil-resistant fabric, and moisture barrier fabrics supplied by Defendant Gore.¹⁸⁴

235. Defendant Honeywell acquired Norcross Safety Products LLC in 2008, entering the protective gear industry and becoming one of the leading manufacturers of bunker gear. Honeywell makes, markets, and sells bunker gear using PFAS-containing fabrics, supplied by Defendants DuPont, Fire-Dex, Gore, PBI, StedFast and Tencate.

236. As frequent sponsors and advertisers in fire service publications, Defendants have been so influential in the industry that fire service leadership has echoed the narratives that the industry bunker gear did not have significant levels of PFAS, and that the bunker gear was completely safe for use.

237. The Defendants have a similar influencer over the National Fire Protection Association ("NFPA") and their regulations for appropriate firefighting bunker gear.

238. In fire fighter cancer-related publications, programs, and events, Defendants repeatedly used the summit as an opportunity to push the narrative that incidence of cancer among fire fighters is attributable to other chemicals encountered in the line of duty, or fire fighters' failure to wash their bunker gear after every call. Not once have the Defendants admitted that the PFAS material in their products has been found to be carcinogenic, and that the very equipment that should be protecting fire fighters are causing the most harm. Further, Lion's recently

¹⁸⁴ See *Our History*, Lion Website, <http://www.lionprotects.com/lion-history> (last visited May 15, 2023); *Firefighter Turnotus*, Lion Website, <https://www.lionprotects.com/firefighter-turnout-gear#> (last visited May 15, 2023).

launched “Not in Our House” cancer awareness program is sadly ironic in that it encourages fighters, themselves, to make a pledge to protect themselves from carcinogens linked to cancer (“I will make every effort to protect myself and my team by doing my part to take precautions that will minimize the risk of exposure to carcinogens that may lead to cancer....”), while all the while refusing to take any corporate responsibility for continually exposing fire fighters to carcinogens in their protective gear.¹⁸⁵

239. Defendants hold numerous positions on NFPA committees and were the driving force behind the UV light degradation test which is one of the main reasons why PFAS continues to be in bunker gear today.

240. Defendants have continued to show their influence over the decades by providing mischaracterized science and studies lacking in peer review. This can be seen in Defendants continued used of a thesis paper of a master’s student in 2000, Defendants industry funded studies of their materials, and continued statements that their bunker gear and materials used for bunker gear are safe.

241. Defendants’ misinformation campaign is long-standing, and continues to this day. Some pertinent examples include:

- a. 2017 - Lion’s President, Stephen Schwartz, wrote a letter to the editor of the Columbus Dispatch, expressing outrage at the assertion in a government filing that fire fighters may have been exposed to PFAS through bunker gear. Schwartz called this assertion false, stating that Lion’s bunker gear is not treated or made with PFOS or PFOA, and further stating, *inter alia*, that: “PFOAs and PFOSs have never been components of Lion’s turn-out gear, either as a coating or as a textile.” He acknowledged that bunker gear is treated with PTFE to provide a durable water repellent, and that the textile industry in the past had used PFOA as a processing aid to manufacture PTFE moisture barrier films and repellants. “It is possible that trace amounts may have been present as a residue when the films and finishes were

¹⁸⁵ Rachel Zoch, *Take A Pledge To Stop Cancer At the Door*, Fire Rescue 1 (January 28, 2019), <https://www.firerescue1.com/fire-products/personal-protective-equipment-ppe/articles/take-a-pledge-to-stop-cancer-at-the-door-e8bn7uAbtIXWdQau/> (last visited May 15, 2023).

incorporated into [the company's] turn-out gear. ***However, based on all available scientific data, such nominal trace amounts, if they existed at all, would not have posed any health risk to firefighters. There is absolutely no connection at all between PFOS and firefighter turnout gear.***" (Emphasis added).

- b. 2018 – The National Fire Protection Association (which maintains committees on foams and bunker gear that are comprised, in part, of certain Defendants) issued a publication listing 11 ways to minimize risk of occupational cancer – the suggestions centered on wearing bunker gear for protection resulting from combustion or spills, and cleaning bunker gear after exposure to chemicals. There was not a single mention of avoiding contact with foam and/or the risks of wearing bunker gear containing PFAS or PFAS-containing materials.¹⁸⁶
- c. 2019 – Defendant Lion issued a Customer Safety Alert for PFOA and Turnout Gear stating: "Your Lion turnout gear continues to be safe and ready for action especially when properly maintained. It is extremely important that firefighters continue to wear and properly care for their gear to stay safe on the job."¹⁸⁷
- d. 2019 – Defendant 3M Vice President, Denise Rutherford, testified before Congress that she ***absolutely agreed with the statement that "the weight of current scientific evidence does not show that PFOS or PFOA cause adverse health effects in humans at current rates of exposure.***" (Emphasis added).¹⁸⁸
- e. 2019 - The Fire Fighting Foam Council (of which many Defendants have been members of since its inception in 2001) wrote in their newsletter that: "Shortchain (C6) fluorosurfactants do not contain or breakdown in the environment to PFOS or PFOA and are currently considered lower in toxicity and have significantly reduced bio-accumulative potential than long-chain PFAS."¹⁸⁹

¹⁸⁶ *11 Best Practices for Preventing Firefighter Cancer Outlined in New Report Put Out by VCOS and NVFC*, National Fire Protection Association Xchange (August 16, 2018), <https://www.nfpa.org/News-and-Research/Publications-and-media/Blogs-Landing-Page/NFPA-Today/Blog-Posts/2018/08/16/11-best-practices-for-preventing-firefighter-cancer-outlined-in-new-report-put-out-by-vcos-and-nvfc> (last visited May 15, 2023).

¹⁸⁷ Lion Customer Safety Alert, *PFOA And Turnout Gear*, https://legacy-assets.eenews.net/open_files/assets/2021/02/16/document_gw_08.pdf (last visited May 15, 2023).

¹⁸⁸ Gabe Schneider, *3M Grilled over PFAS Chemicals at Congressional Hearing*, MinnPost (September 11, 2019), <https://www.minnpost.com/national/2019/09/3m-grilled-over-pfaschemicals-at-congressional-hearing/> (last visited May 15, 2023).

¹⁸⁹ AFFF Update Newsletter, Fire Fighting Foam Coal. (April 2019), <https://tinyurl.com/y57c5jwx>, (last visited May 15, 2023).

- f. 2019 – Defendant Gore issued a public statement, stating that “the potential exposures and associated risks of cancer effects from PFOA alternative and non-polymeric perfluoroalkyl substances in Gore Components [bunker gear] are insignificant.”¹⁹⁰
- g. 2020 - FluoroCouncil – the lobbying arm of the PFAS industry – maintains that PFAS fluorotelomers that are in Class B foam (AFFF) and bunker gear do not cause cancer, disrupt endocrine activity, negatively affect human development or reproductive systems, do not build up in the human body, and do not become concentrated in the bodies of living organisms.¹⁹¹
- h. 2020 – The Fire Fighting Foam Council website states: “The short-chain (C6) fluorosurfactants that have been the predominant fluorochemicals used in fluorotelomer-based AFFF for the last 25 years are low in toxicity and not considered to be bio-accumulative based on current regulatory criteria.”¹⁹²
- i. 2020 – The Fire Fighting Foam Council’s Best Practice Guidance for Use of Class B Foam - which was published in May 2016 and has not been updated to reflect the latest research - focuses entirely on eliminating and containing foam to minimize impact on the environment. It makes no mention of how to minimize the impact on fire fighters who routinely handle, prepare, spray, or use Class B foam during training or in firefighting.¹⁹³
- j. 2020 – Defendant Lion’s hired consultant Paul Chrostowski, PhD took out a full-page in a fire service trade publication, Firefighter Nation, to argue that bunker gear is completely safe and any evidence to the contrary, including the Notre Dame study, is unreliable and fearmongering. “[E]ven if PFAS were found in their turnout gear, at this time there is no credible evidence that it ends up in firefighters’ bodies in amounts that would be higher than the general population.... the connection between PFAS and cancer is extremely weak. The few peer-reviewed epidemiological studies that have found an association were not statistically significant and inconsistent with other studies.... The materials used in turnout gear are the safest materials available, and without them, firefighters would be at extreme risk for burns and exposure to known cancer-causing toxic chemicals present on the fireground, as well as metabolic heat

¹⁹⁰ W. L. Gore and Associates, *Exposure Assessment and Cancer Risk Characterization for Firefighters from Non- Polymeric PFAS Residuals in Gore Components Used in Firefighting Gear*, (August 20, 2019),

<https://www.goretexprofessional.com/sites/default/files/pdfs/Firefighter%20Exposure%20Assessment%20Short%20Chain%20Non%20Polymer%20Residual.pdf> (last visited May 15, 2023).

¹⁹¹ *FluoroCouncil PFAS Information*, Glob. Indus. Council for FluoroTechnology, (August 23, 2019) <https://portal.ct.gov/DEEP/Remediation--Site-Clean-Up/PFAS-Task-Force/Pollution-Prevention-Committee> (last visited May 15, 2023).

¹⁹² *Fact Sheet on AFFF Fire Fighting Agents*, Fire Fighting Foam Coal. (2017), <https://tinyurl.com/yyxscyas> (last visited May 15, 2023).

¹⁹³ *Best Practice Guidance for Use of Class B Firefighting Foams*, Fire Fighting Foam Coal. (May 2016), <https://tinyurl.com/2kzd9ed9> (last visited May 15, 2023).

stress.... Alternative materials tried by the U.S. fire service thus far have proven to be unsafe.¹⁹⁴

- k. 2020 – Defendant Lion’s hired consultant Chrostowski also stated in Firefighter Nation that all bunker gear are compliant with the standards set by the NFPA and Swiss organization OEKO-TEX’s Standard 100 for PPE and Materials for PPE. “The OEKO-TEX certification process tests for the presence of unsafe levels of trace materials, including PFOA.”¹⁹⁵
- l. 2021 - In a Oklahoma Times article, Defendant W.L. Gore maintained that its turnout products were safe.¹⁹⁶
- m. 2021 – Defendant Lion stated that the representations articulated by its consultant Paul Chrostowski in 2020 (see above), reflect its position: “Dr. Chrostowski’s report says it all for Lion.”¹⁹⁷
- n. 2021 – Defendant MSA/Globe and W. L. Gore have continued to state that their products have been tested and are safe.¹⁹⁸
- o. 2022 – Defendant 3M stated that it was not “necessary or appropriate” to declare any PFAS hazardous.¹⁹⁹ It also states on its website that: “The weight of scientific evidence from decades of research does not show that PFOS or PFOA causes harm in people at current or past levels....Decades of research into the health of these workers has not identified negative health outcomes caused by exposure to PFOA or PFOS....It is important to know that while some studies may find links or associations with possible health outcomes, this is not the same as causation. The weight of scientific evidence does not show that PFOS or PFOA causes harm to people at current or historical levels. Although PFAS have been detected in the environment at

¹⁹⁴ Paul Chrostowski, *Research and Independent Testing Shows Firefighters’ Turnout Gear Remains Safe Despite Claims* (June 3, 2020), <https://www.firefighternation.com/health-safety/research-and-independent-testing-shows-firefighters-turnout-gear-remains-safe-despite-claims/#gref> (last visited May 15, 2023).

¹⁹⁵ *Id.*

¹⁹⁶ Hiroko Tabuchi, *Firefighters Battle an Unseen Hazard: Their Gear Could Be Toxic*, Oklahoma Times, (January 26, 2021), <https://www.nytimes.com/2021/01/26/climate/pfas-fighter-safety.html> (last visited May 15, 2023).

¹⁹⁷ David Ferry, *The Toxic Job of Being A Hero*, Men’s Health, (September 21, 2021), <https://www.menshealth.com/health/a37624731/cancer-fighter-gear-pfas/> (last visited May 15, 2023).

¹⁹⁸ Andrew Wallander, *Firefighters Want Halt on Money From Makers of PFAS-Laden Gear*, Bloomberg Law, (January 19, 2021), <https://news.bloomberglaw.com/pfas-project/firefighters-want-halt-on-money-from-makers-of-pfas-laden-gear> (last visited May 15, 2023).

¹⁹⁹ Jim Spencer, *3M’s Support for PFAS Could Cost Taxpayers Billions of Dollars*, Star Tribune (September 11, 2021), <https://www.startribune.com/3m-s-support-for-pfas-could-cost-taxpayersbillions-of-dollars/600096094/> (last visited May 15, 2023).

extremely low levels, their mere presence does not mean they are harmful.... Although it has been widely reported that no causal connection has been identified between exposure to PFOS or PFOA and harm to people's health, there is a great deal of misinformation in the public domain.... The findings of the C-8 science panel are also frequently misunderstood.”²⁰⁰

- p. 2022 - DuPont and Chemours also continue to assert that there is little scientific evidence to support that PFAS and/or certain PFAS, like fluoropolymers, are harmful to human health.²⁰¹
- q. 2022 - DuPont maintains that bunker gear keeps fire fighters safe and “protect against the intrusion of...chemicals.”²⁰²

242. In June 2020, the Notre Dame Turnout Study, which analyzed over 30 sets of used and unused (still in their original packaging) bunker gear made by six U.S. manufacturers, including Defendants MSA/Globe, Lion and Honeywell, over several production years, was published.²⁰³

243. The Notre Dame Turnout Study noted that these manufacturers' bunker gear (or personal protective equipment-PPE, as it is described in the study) are manufactured “from textiles that are made from fluoropolymers (one form of PFAS) or extensively treated by PFAS in the form of side-chain fluoropolymers.”²⁰⁴ According to the researchers, “[t]hese PFAS include fluoropolymer materials such as PTFE used as a moisture barrier in the inner layers of turnout gear.”²⁰⁵ The study found significant levels of PFAS chemicals – including PFOA, PFOS, PFBA,

²⁰⁰ *3M's Commitment to PFAS Stewardship*, 3M, https://www.3m.com/3M/en_US/pfas-stewardship-us/health-science/ (last visited May 15, 2023).

²⁰¹ *What Government Agencies Say*, DuPont, <https://www.pp.dupont.com/pfas/what-governmental-agencies-say.html> (last visited May 15, 2023); *Our Commitment to PFAS Stewardship*, Chemours, <https://www.chemours.com/en/corporate-responsibility/sustainability-safety/our-commitment-to-pfas-stewardship> (last visited May 15, 2023).

²⁰² *Technology inside your turnout gear*, DuPont, <https://www.dupont.com/knowledge/dupont-technology-in-your-turnout-gear.html> (last visited May 15, 2023).

²⁰³ Graham Peaslee et al., *Environmental Science & Technology Letters* 2020, 7, 8, 594-599 (June 23, 2020).

²⁰⁴ *Id.*

²⁰⁵ *Id.*

PFPeA, PFHxA, PFHpA, PFNA, PFDA, PFUnA, PFDmA, PFTrDA, PFToDA, PFBS, PFOSA, NEtFOSA, MeFOSAA, N-MeFOSE, N-EtFOSE and 6:20FTS – in both new and used bunker gear, and across layers, portions, and materials in the bunker gear, including in material layers that are not intentionally treated with PFAS by the manufacturer, thereby providing “the first evidence that suggests PFAS appear to migrate from the highly fluorinated layers and collect in the untreated layer of clothing worn against the skin.”²⁰⁶

244. These findings suggest that, as the garments are worn, PFAS from the outer shell and the moisture barrier can migrate from the bunker gear and contaminate both the fire fighter, their apparatus and workplace with PFAS. The analysis also indicated that fluoropolymers from the outer layer decompose into other PFAS, including PFOA.

245. “Startlingly,” researchers reported, “garment to hand transfer of total fluorine in the ppm range was also observed when researchers simply manipulated the textiles in [the] laboratory.”²⁰⁷ The accumulation of PFAS on researchers’ hands strongly suggests that transference of ppm levels of PFAS can occur merely by handling the bunker gear and that PFAS exposure pathways include inhalation, ingestion and/or absorption (through dermal contact) – all of which DuPont internally acknowledged as being toxic in 1980. Such exposure pathways are a concern not only for fire fighters that rely on bunker gear to protect them from heat, fire, water, and chemical hazards in the field, but to family members who may be exposed to the PFAS in bunker gear as the result of home washing or storage. Lead researcher Dr. Graham Peaslee commented that bunker gear are “the most highly fluorinated textiles I’ve ever seen”²⁰⁸ and that

²⁰⁶ *Id.* at 596.

²⁰⁷ Graham Peaslee et al., Environmental Science & Technology Letters 2020, 7, 8, 594-599 (June 23, 2020).

²⁰⁸ Raleigh McElvery, *Protective Gear Could Expose Firefighters to PFAS*, Chemical and Engineering News (July 1, 2020), <https://cen.acs.org/environment/persistent->

the level of PFAS in turnout gear means that fire fighters are “swimming in a sea of [PFAS]. Those numbers for scientists are scarily high...”²⁰⁹

246. Despite these findings, Defendants have been quick to mischaracterize, dismiss or downplay the significance of the Notre Dame Turnout Study.”²¹⁰

247. Defendant MSA/Globe, when contacted about the study and asked whether Globe planned to study this issue and find an alternative to PFAS for bunker gear, merely responded thusly: “[P]rotecting (firefighters) is Globe’s business; every piece of our turnout gear meets or exceeds applicable industry standards.”²¹¹

248. As noted above, Defendant Lion has also dismissed or minimized the significance of the Notre Dame Turnout Study’s findings, stating: “Your Lion turnout gear continues to be safe and ready for action especially when properly maintained. It is extremely important that firefighters continue to wear and properly care for their gear to stay safe on the job.”²¹²

249. The Customer Safety Alert goes on to stress that Lion does not use PFOA or PFOS (two long-chain PFAS chemicals) in its bunker gear.²¹³ It does not, however, address that Lion’s

[pollutants/Protective-gear-expose-firefighters-PFAS/98/i26](#) (last visited May 15, 2023).

²⁰⁹ Andrew Wallender, *Firefighters Face New Possible Risk From Toxic PFAS: Their Gear*, Bloomberg Law (June 23, 2020), <https://news.bloomberglaw.com/pfas-project/firefighters-face-new-possible-risk-from-toxic-pfas-their-gear> (last visited May 15, 2023).

²¹⁰ Blair Miller, *Local Firefighters Concerned About Potentially Dangerous Chemicals on Gear*, Boston 25 News (February 26, 2019), <https://www.boston25news.com/news/local-firefighters-facing-concerns-over-potentially-dangerous-chemicals-on-gear/925236612/> (last visited May 15, 2023).

²¹¹ Blair Miller, *Local Firefighters Concerned About Potentially Dangerous Chemicals on Gear*, Boston 25 News (February 26, 2019), <https://www.boston25news.com/news/local-firefighters-facing-concerns-over-potentially-dangerous-chemicals-on-gear/925236612/> (last visited May 15, 2023).

²¹² Lion Customer Safety Alert, *PFOA And Turnout Gear*, https://legacy-assets.eenews.net/open_files/assets/2021/02/16/document_gw_08.pdf (last visited May 15, 2023).

²¹³ *Id.*

bunker gear in fact contain other PFAS chemicals, nor warn fire fighters or the public about health harms associated with exposure to these toxic, bio-accumulating chemicals.

250. Defendant Lion's paid consultant, Dr. Paul Chrostowski, also has taken aim at the Notre Dame Turnout Study and its findings. Attempting to refute a *Fire Rescue* magazine article about the study, Chrostowski repeated Lion's website statement that "PFOA was never part of the gear itself and frequent independent testing has found only trace amounts of it in any of the gear – not nearly enough to cause concern, and in amounts similar to consumer products."²¹⁴ Chrostowski went on to say "[t]he fact is that one may find trace amounts of 'short-chain' PFAS such as PFBS and PFHxA in firefighting textiles, but the scientific research shows that these materials are far less toxic than even PFOA and at the tiny trace levels the risk are extremely low based on numerous credible published scientific research papers."²¹⁵ Finally, as mentioned above, Chrostowski falsely stated that the link between PFAS exposure and cancer is "extremely weak."²¹⁶

251. And yet, Lion has admitted publicly that dermal absorption is a pathway of exposure to cancer-causing chemicals for fire fighters. In Lion's *Not in Our House* cancer awareness fact sheet that currently appears on the company's website, Lion warns fire fighters: "For every 5 degrees increase in temperature, skin becomes up to 400% more absorbent. The hotter you are, the more carcinogens your skin absorbs."²¹⁷ This statistic is alarming given that the core body temperature of fire fighters routinely increases during firefighting activities while

²¹⁴ Paul Chrostowski, Firefighter Nation (June 3, 2020), *supra*, FN 75.

²¹⁵ *Id.*

²¹⁶ *Id.*

²¹⁷ *Cancer Awareness Infographic*, Lion Group Inc., <https://www.lionprotects.com/not-in-our-house> (last visited May 15, 2023).

wearing bunker gear which contain known carcinogens.²¹⁸

252. On September 26, 2022, the International Agency for Research for Cancer (“IARC”), the specialized agency of the World Health Organization, announced that it would be having a Meeting on PFOA and PFOS from November 7–November 14, 2023.

253. In effect, the IARC nominated PFOA and PFOS for review and publishing in the IARC Monographs. The expectation of the meeting is to reach an industry-wide consensus on the strength of evidence available to classify those agents as carcinogenic.

254. Likewise, Defendant Honeywell has stated: “The skin on the neck is very thin and prone to absorbing carcinogenic particulates.”²¹⁹

255. Another recent Harvard study examining PFAS levels in fire stations dust found that “dust in turnout gear locker areas and adjoining apparatus bays had significantly higher fluorine concentrations compared to living rooms in fire stations,” as well as fluorine concentrations typically found in AFFF and/or textiles as opposed to consumer products.²²⁰

256. All of the aforementioned information was known or knowable by all Defendants who manufactured, designed, marketed, sold, formulated, and/or distributed PFAS, AFFF containing PFAS and/or bunker gear containing PFAS.

257. Notwithstanding the aforementioned knowledge as to the various risk associated

²¹⁸ Nancy Espinoza, *Can We Stand the Heat?*, Journal of Emergency Medical Services, (April 30, 2008), <https://www.jems.com/operations/can-we-stand-heat-study-reveal/> (last visited May 16, 2023); Gavin P. Horn, et al., *Thermal Response to Firefighting Activities in Residential Structure Fires: Impact of Job Assignment and Suppression Tactic*, Ergonomics (July 31, 2017), <https://tinyurl.com/4j2mz7f7> (last visited May 15, 2023).

²¹⁹ Ronnie Wendt, *Innovations in Turnout Gear*, Industrial Fire World (March 17, 2021), <https://www.industrialfireworld.com/598931/innovations-in-turnout-gear> (last visited May 15, 2023).

²²⁰ A.S. Young et al., *Per- and Polyfluoroalkyl Substances (PFAS) and Total Fluorine in Fire Station Dust*, J. Expo. Sci. Environ. Epidemiology (2021), <https://www.nature.com/articles/s41370-021-00288-7> (last visited May 15, 2023).

with PFAS exposure, Defendants continued to negligently and carelessly design, manufacture, market, distribute, and/or sell PFAS for use in AFFF and bunker gear.

258. At all relevant times, Defendants, through their acts and/or omissions, controlled, minimized, trivialized, manipulated and/or otherwise influenced the information that was published in peer review journals, released by any governmental entity and/or otherwise made available to the public relating to PFAS in human blood and any alleged adverse impacts and/or risks associated therewith, effectively preventing Plaintiff from discovering the existence and extent of any injuries/harm as alleged herein.

259. At all relevant times, Defendants, through their actions and/or omissions, took steps to attack, challenge, discredit, and/or otherwise undermine any scientific findings, studies, statements, and/or other information that proposed, alleged, suggested, or even implied any potential adverse health effects or risks, and/or any other fact of legal, toxicological, or medical significance associated with PFAS.

260. At all relevant times, Defendants, through their actions and/or omissions, concealed and/or withheld information from its customers, governmental entities, and the public that would have properly and fully alerted Plaintiff about the possible toxicological and other risks from PFAS exposure.

261. Defendants negligently and carelessly failed to issue to instruct users on how PFAS products should be used and disposed of.

262. Defendants negligently and carelessly further failed and refused to issue the appropriate warnings and/or recalls to the users of PFAS, AFFF containing PFAS and/or bunker gear containing PFAS, notwithstanding the fact that Defendants knew foreseeable the identities of the purchasers and end-users of these products.

263. Defendants knew and/or should have known and/or foresaw and/or should have foreseen that their marketing, development, manufacture, distribution, release, training and response of users, production of instructional materials, sale and/or other handling and/or use of PFAS, AFFF containing PFAS and/or bunker gear containing PFAS, including in areas where Plaintiff worked and resided, would result in the contamination of the blood and/or body of Plaintiff with PFAS chemicals and the biopersistence and bioaccumulation of such PFAS in Plaintiff's blood and/or body.

264. Defendants knew or should have known, or foresaw or should have foreseen that allowing PFAS to contaminate the blood and/or body of Plaintiff would cause injury, irreparable harm, and unacceptable risk of such injury and/or harm to Plaintiff.

265. At all relevant times, Defendants shared and/or should have shared among themselves all relevant information relating to the presence, biopersistence and bioaccumulation of PFAS in human blood and associated toxicological, epidemiological and/or otherwise adverse effects and/or risks.

5. FEASIBILITY TO DESIGN SAFER AFFF AND BUNKER GEAR

266. Defendants have long known that safer, reasonable, alternative designs existed and could be utilized. These designs are and were not only technologically feasible, but also economically. Indeed, given the enormous cost of remediation of the environment and litigation, not to mention the cost of human lives, these safe, feasible alternatives would have cost significantly less.

267. In the early 2000s, 3M, in conjunction with Solberg Scandinavian AS developed Re-Healing Foam ("RF"), a high-performance, AFFF-comparable product that contained no PFAS, and resulted in two patents and three commercial products of PFAS-free firefighting foam.

RF met the standard of “ICAO [International Civil Aviation Organization] Level B and matched AFFF in performance including a US MIL-Spec product.”²²¹ In 2007, Solberg bought 3M’s patent rights to RF and continued to market and sell RF. In 2011, Defendant Amerex acquired Solberg and continued to manufacture, market, and sell RF. In 2014, the EPA presented Solberg with the Presidential Green Chemistry Challenge Award for its fluorine-free foams; the award recognizes technologies that prevent pollution and match or improve the performance of existing products.²²² 2018, Defendant Perimeter Solutions in 2018 acquired Solberg and continued to manufacture, market, and sell RF.

268. Also, beginning in the early 2000s, BIOEX launched a highly effective, fluorine free Class B F3 foam which has been approved and used by international airports, fire departments, oil and gas companies, the marine industry and pharmaceutical, and chemical companies around the world.²²³

269. However, lobbyists and companies invested in maintaining profits on AFFF containing PFAS not only continued to represent that PFAS-containing AFFF was safe, but also

²²¹ *Fluorine Free Firefighting Foams (3F) – Viable Alternatives to Fluorinated Aqueous Film Forming Foams (AFFF)*, IPEN Expert Panel (September 2018), https://ipen.org/sites/default/files/documents/IPEN_F3_Position_Paper_POPRC-14_12September2018d.pdf (last visited May 15, 2023); Schaefer, Ted. H. et al., *New Foam Technology, New Found Benefits*, Solberg, IAFPA Sydney 2005 Conference Proceedings (Oct. 5-7, 2005), <https://www.kappetijn.eu/wp-content/uploads/2019/05/new-foam-technology-new-found-results-conferentie-sydney-2005.pdf>. (last visited May 15, 2023).

²²² *Presidential Green Chemistry Challenge: 2014 Designing Greener Chemicals Award*, U.S. Env’t Prot. Agency (October 2014), <https://www.epa.gov/greenchemistry/presidential-green-chemistry-challenge-2014-designing-greener-chemicals-award> (last visited May 15, 2023).

²²³ *Fluorine Free Firefighting Foam (FFF) – Firefighting Foam Concentrates*, BIOEX website (last visited December 13, 2021), <https://www.bio-ex.com/en/our-products/compositions/fluorine-free-foam/> (last visited May 15, 2023); Fluorine Free Firefighting Foams (3F) – Viable Alternatives to Fluorinated Aqueous FilmForming Foams (AFFF), IPEN Expert Panel, p. 48 (September 2018), https://ipen.org/sites/default/files/documents/IPEN_F3_Position_Paper_POPRC-14_12September2018d.pdf (last visited May 15, 2023).

intentionally maligned the fluorine free foams, falsely asserting that these foams were less effective and more expensive.²²⁴ As noted by the International Pollutants Elimination Network (IPEN):

Over the years since the serious introduction on the market of Class B fluorine-free F3 foams suitable for hydrocarbon and polar solvent fires: there have been many attempts by the fluorochemical side of the industry and their lobbyist trade associations to undermine and downplay the operational performance of Class B fluorine-free foams whilst minimizing the environmental issues associated with fluorinated products. This has included publishing in the technical trade literature spurious performance tests carried out by non-independent or certified bodies funded by competitors to F3 producing companies, as well as continually perpetrating unsupported myths. It is these myths in particular that must be controverted for what they are: marketing hype, misrepresentation of test conditions, frank untruths or only partial truths, criticism of a competitor's product, and an exhibition of vested interests.²²⁵

270. In 2011, the Fire Fighting Foam Coalition, which includes Defendants Tyco, DuPont, Kidde, and Buckeye, misrepresented a U.S. Navy report comparing Solberg's fluorine free RF with Defendant National Foam's 6-Em AFFF and Defendant Buckeye's FC-3MS AFFF, asserting Solberg's RF was less effective. In fact, though Solberg's RF ***was not made per military specifications*** as it did not include fluorine, the U.S. Navy Report found:

For iso-octane, the non-fluorinated foam had shorter extinguishment times than the two AFFFs and was the only foam to achieve an extinguishment time under 30 seconds.... The non-fluorinated foam had substantially better performance on iso-octane than on any of the other fuels. Conclusions: For the AFFF foams which were intended to work via formation of an aqueous film, fire extinction times were lengthened considerably in cases where film formation was made difficult by the low surface tension of the fuel. ***For the non-filming fluorine-free foam, however, no such performance decrement was observed, and the fire extinction times on the lowest surface tension fuel were lower than for fuels with higher surface tensions, and within the 30 second time limit specified (on gasoline) by MIL-F24385F.***²²⁶ (emphasis added)

²²⁴ *Id.* at 20.

²²⁵ *Id.* at 22.

²²⁶ Solberg Foam Technical Bulletin, *Re-Healing Foam Fire Performance*, Technical Bulletin, #1009 (last visited December 13, 2021), <https://www.interfireagencies.com.au/wp-content/uploads/2015/04/TechB-1009-RE-HEALING-Foam-Fire-Performance-2.pdf> (last visited May 15, 2023).

271. Further, the study found that AFFF foams had a 25% drain time (between 4-6 minutes), whereas the fluorine-free RF's drain time was 12 minutes. This slower drain time leads to greater burn back resistance and greater safety for fire fighters.

272. The technology to develop safer, effective, and economical fluorine-free AFFF is and has been available for, at least, over 20 years. In fact, many firefighting foam manufacturers and distributors companies manufacture, market and/or sell fluorine-free firefighting foams, including Defendants Tyco, Perimeter Solutions, Chemguard and National Foam.

273. EUROFEU, an umbrella organization representing fire protection trade associations and companies including Defendant Tyco, even stated in 2019: "We believe that F3s [fluorine-free foams] are very suitable for a growing number of applications such as municipal firefighting, training, some testing and as foam agents in first responding fire trucks."²²⁷

274. LAST FIRE, a consortium of international oil companies developing best industry practice in storage tank Fire Hazard Management including Shell Oil, Chevron, BP, Exxon and Defendant Perimeter Solutions, concluded after conducting 200 tests that: "Fluorine free foams can provide equivalent performance to C6 foams [AFFF] and provide appropriate performance for hydrocarbon [fires]."²²⁸

275. Safe fluorine-free bunker gear was and is also technologically and economically feasible.

276. Defendant Fire-Dex, manufactures, markets and sells an entire line of PFAS-free

²²⁷ *The Use of PFAS and Fluorine-Free Alternatives in Fire-Fighting Foams*, European Commission DG Environment and European Chemicals Agency (ECHA), Final Report, June 2020, p. 273,

https://echa.europa.eu/documents/10162/28801697/pfas_flourinefree_alternatives_fire_fighting_en.pdf/d5b24e2a-d027-0168-cdd8-f723c675fa98 (last visited May 15, 2023).

²²⁸ *Id.* at pp. 314-315. Hydrocarbon fires are flammable gas or liquid fires that may involve gas, oil, kerosene, ethanol, propane, acetylene, hydrogen, and methane, to name a few.

bunker gear, as well as non-fluorinated fabrics from Safety Components Inc. with a PFAS-free water-repellent.²²⁹ “Made with the same fabric as our traditional TECGEN71 outer shell, this Case material is designed to reduce heat stress while offering the same performance levels in TPP, breathability, and overall reduction of composite weight.”²³⁰ Further, because of the increased breathability and thermal protection, the PFAS-free gear is the only outer shell that can currently be paired with the lightest and thinnest thermal liners and moisture barriers.²³¹ This, according to Fire-Dex, significantly reduces heat stress and cardiac failure for fire fighters while also reducing the risk of cancer and other diseases by eliminating PFAS exposure through bunker gear.

277. Defendants MSA/Globe, Honeywell, Tencate, and Gore have developed, manufactured, marketed and/or sold PFAS-free waterproofing technology, PFAS-free outer shells in bunker gear and/or durable PFAS-free fabrics.²³²

278. Defendant Honeywell even admitted that these PFAS-free alternatives are safe, feasible and economical: “Any minor tradeoffs with PFAS-free fabrics are outweighed by worker safety. And the protection level is unchanged. PFAS-free gear offers the same thermal protection

²²⁹ Fire-Dex Launches Non-Fluorinated PPE Fabrics, Firehouse.com (February 17, 2021), <https://www.firehouse.com/safety-health/ppe/turnout-gear/press-release/21210722/firedexfiredex-launches-nonfluorinated-ppe-fabrics> (last visited May 15, 2023).

²³⁰ Alternative PPE, Fire-Dex website, <https://www.firedex.com/catalog/tecgen51-fatigues/#materials> (last visited May 15, 2023).

²³¹ TecGen71 Outer Shell, Fire-Dex website, <https://www.firedex.com/tecgen71/> (last visited May 15, 2023).

²³² FreeFAS Durable Water Repellent (DWR) Coating, MSA/Globe website, <https://globe.msasafety.com/newoutershells> (last visited May 15, 2023); Wendt, Innovations in Turnout Gear, Industrial Fire World (March 17, 2021), <https://www.industrialfireworld.com/598931/innovations-in-turnout-gear> (last visited May 15, 2023); WL Gore to Release PFAS-free Waterproof Material for Apparel, Chemical Watch (October 4, 2021), <https://chemicalwatch.com/346695/wl-gore-to-release-pfas-free-waterproof-material-for-apparel> (last visited May 15, 2023).

and moves the same way. The color fastness and wear remain the same.”²³³

279. While the technology to develop fluorine-free bunker gear has been available for years, the NFPA turnout standards-setting technical committee (“NFPA”) continues to adhere to certain guidelines for bunker gear which require PFAS—knowingly putting fire fighters at risk for exposure to PFAS. This committee includes industry consultants, textile and gear manufacturers and representatives Defendants Lion, Tyco, and Honeywell.²³⁴

280. The economic and technological feasibility of PFAS-free foams and bunker gear is well-established and based on technology that has been available for years. The alternative designs detailed above are far safer for fire fighters and eliminate the serious health risks that result from PFAS exposure.

281. The only barrier to producing safer alternatives to PFAS-containing foams and bunker gear has been Defendants’ opposition. Their continued manufacturing, marketing, selling and/or distributing PFAS-containing foams and bunker gear has exposed fire fighters to toxic PFAS chemicals. These defective designs are and/or have been a substantial factor in causing Plaintiff’s injuries.

282. Based on all of the foregoing, Plaintiff brings this action for damages and for other appropriate relief sufficient to compensate her for the significant harm Defendants’ PFAS and PFAS-containing products have caused.

CAUSES OF ACTION

²³³ Wendt, Innovations in Turnout Gear, Industrial Fire World (March 17, 2021), <https://www.industrialfireworld.com/598931/innovations-in-turnout-gear> (last visited May 15, 2023).

²³⁴ NFPA 1971/1851 Technical Committee Meeting Minutes (March 31, 2020); NFPA 1971/1851 Technical Committee Meeting Minutes (January 11-12, 2012).

First Cause of Action
(Products Liability – Defective Design – Consumer Expectations)

283. Plaintiff hereby incorporates by reference the allegations contained in the preceding paragraphs of this complaint as if restated in full therein.

284. At all times relevant to the Complaint, Defendants were regularly engaged in the design, formulation, production, creation, making, construction, assembly, rebuilding, sale, distribution, preparation, and labeling, of PFAS products.

285. At all times pertinent to this Complaint, Defendants regularly participated in placing the PFAS products into the American stream of commerce.

286. As manufacturers, designers, refiners, formulators, distributors, suppliers, sellers, and/or marketers of PFAS products, Defendants owed a duty to all persons whom Defendants' products might foreseeably harm, including Plaintiff, not to manufacture, sell, and/or market any product which is unreasonably dangerous for its intended and foreseeable uses.

287. Plaintiff used Defendants' PFAS products in a reasonably foreseeable manner and without substantial changes in the condition in which the products were sold.

288. Defendants' PFAS products used by Plaintiff did not perform as safely as an ordinary consumer would have expected the products to perform when used as Plaintiff did in an intended or reasonably foreseeable manner because PFAS are carcinogens and otherwise harmful to human health.

289. Defendants' defective design of the PFAS products was far more dangerous than Plaintiff or an ordinary consumer would expect when used, as Plaintiff did, in an intended and reasonably foreseeable manner.

290. Defendants' PFAS products' failure to perform safely was a substantial factor in causing Plaintiff's harm.

291. The risks of PFAS products were not obvious to users of the AFFF and/or bunker gear, nor were they obvious to users in the vicinity of the AFFF use, including Plaintiff, who were unwittingly exposed to Defendants' toxic and carcinogenic chemicals. Plaintiffs could not have reasonably discovered the defects and risks associated with the use of PFAS products and could not protect themselves from exposure to Defendants' PFAS products.

292. As a direct and proximate result of Defendants' defective design, Plaintiff has suffered and will continue to suffer some or all of the following damages:

- a. Medical and hospital bills for diagnosis, monitoring, and treatment of injuries;
- b. Physical injury, both temporary and permanent;
- c. Economic damages;
- d. Severe and significant emotional distress and mental pain and suffering;
- e. Humiliation, embarrassment and fear;
- f. Loss of enjoyment of life;
- g. Annoyance and inconvenience; and
- h. Other damages, which, under the law and circumstances, Plaintiff is entitled to recover, including attorneys' fees and costs associated with the prosecution of this action.

293. As a result of Defendants' design and formulation of a defective product, Defendants are strictly liable in damages to Plaintiff.

294. Defendants' acts were willful, wanton, reckless and/or conducted with a reckless indifference to the rights of Plaintiff.

Second Cause of Action
(Products Liability – Defective Design – Risk Benefit)

295. Plaintiff hereby incorporates by reference the allegations contained in the preceding paragraphs of this Complaint as if restated in full therein.

296. At all times relevant to the Complaint, Defendants were regularly engaged in the design, formulation, production, creation, making, construction, assembly, rebuilding, sale, distribution, preparation, and labeling, of PFAS products.

297. At all times pertinent to this Complaint, Defendants regularly participated in placing the PFAS products into the American stream of commerce.

298. As manufacturers, designers, refiners, formulators, distributors, suppliers, sellers, and marketers of PFAS products, Defendants owed a duty to all persons whom Defendants' products might foreseeably harm, including Plaintiff, not to manufacture, sell, or market any product which is unreasonably dangerous for its intended and foreseeable uses.

299. Defendants' PFAS products were defectively designed and manufactured when the products left the hands of Defendants, such that the foreseeable risks associated with the use, storage, and disposal of the PFAS products exceeded the alleged benefits associated with its design and formulation.

300. At all times relevant to this litigation, Defendants' PFAS products reached Defendants' intended consumers and users without substantial change in its condition as designed, manufactured, sold, distributed, labeled, and marketed by Defendants.

301. Defendants could have manufactured, marketed, and sold alternative designs or formulations of products that did not contain harmful PFAS.

302. These alternative designs and/or formulations were available, practical, and technologically feasible.

303. The use of these alternative designs would have reduced or prevented the reasonably foreseeable harm to human health that was caused by the Defendants' manufacture, marketing, and sale of PFAS products.

304. The PFAS products manufactured, sold, or distributed by the Defendants were defective in design because the foreseeable risk of harm posed by the PFAS products could have been reduced or eliminated by the adoption of a reasonable alternative design.

305. As a direct and proximate result of Defendants' defective design, Plaintiff has suffered and will continue to suffer some or all of the following damages:

- a. Medical and hospital bills for diagnosis, monitoring, and treatment of injuries;
- b. Physical injury, both temporary and permanent;
- c. Economic damages;
- d. Severe and significant emotional distress and mental pain and suffering;
- e. Humiliation, embarrassment and fear;
- f. Loss of enjoyment of life;
- g. Annoyance and inconvenience; and
- h. Other damages, which, under the law and circumstances, Plaintiff is entitled to recover, including attorneys' fees and costs associated with the prosecution of this action.

306. As a result of Defendants' design and formulation of a defective product, Defendants are strictly liable in damages to Plaintiff.

307. Defendants' acts were willful, wanton, reckless and/or conducted with a reckless indifference to the rights of Plaintiff.

Third Cause of Action
(Strict Products Liability – Failure To Warn)

308. Plaintiff hereby incorporates by reference the allegations contained in the preceding paragraphs of this Complaint as if restated in full therein.

309. Defendants knew or should have known that exposure to PFAS products presented a substantial danger when used because it is hazardous to human health and the environment.

310. Defendants knew or should have known that the manner in which they were manufacturing, marketing, and selling PFAS products would result in physical harm to Plaintiff.

311. Ordinary consumers of Defendants' PFAS products would not have recognized the risks.

312. Defendants failed to adequately warn Plaintiff of the potential risks of PFAS products.

313. Adequate instructions and warnings on the PFAS products could have reduced or avoided these foreseeable risks of harm to Plaintiff's health.

314. Had Defendants provided adequate warnings, Plaintiff could have taken measures to avoid or lessen the exposure.

315. The lack of sufficient warnings was a substantial factor in causing Plaintiff's harm.

316. Defendants' failure to warn was a direct and proximate cause of Plaintiff's injury.

317. Defendants' failure to provide adequate and sufficient warnings for the PFAS products that they manufactured, marketed, and sold renders the PFAS products defective products.

318. As a direct and proximate result of Defendants' defective design, Plaintiff has suffered and will continue to suffer some or all of the following damages:

- a. Medical and hospital bills for diagnosis, monitoring, and treatment of injuries;
- b. Physical injury, both temporary and permanent;
- c. Economic damages;
- d. Severe and significant emotional distress and mental pain and suffering;
- e. Humiliation, embarrassment and fear;
- f. Loss of enjoyment of life;
- g. Annoyance and inconvenience; and
- h. Other damages, which, under the law and circumstances, Plaintiff is entitled to recover, including attorneys' fees and costs associated with the prosecution of this action.

319. As a result of Defendants' manufacture, sale, and/or distribution of a defective product, Defendants are strictly liable in damages to Plaintiff.

320. Defendants' acts were willful, wanton, reckless, and/or conducted with a reckless indifference to the rights of Plaintiff.

Fourth Cause of Action
(Negligence)

321. Plaintiff hereby incorporates by reference the allegations contained in the preceding paragraphs of this complaint as if restated in full therein.

322. As manufacturers, refiners, formulators, distributors, suppliers, sellers, marketers, shippers, or handlers of PFAS products, Defendants owed a duty to Plaintiff to exercise reasonable care in the instructing, labeling, and warning of the handling, control, use and disposal of Defendants' PFAS products.

323. Defendants also voluntarily assumed a duty towards Plaintiff by affirmatively

representing to Plaintiff that Defendants' previously detailed acts and/or omissions were not causing any physical harm or other damage to him, and that Defendants' PFAS products were safe to use.

324. Defendants' PFAS products are inherently dangerous substances and Defendants' owed a duty of care towards the Plaintiff that was commensurate with the harmful nature of the PFAS products and the dangers involved with exposure to PFAS products.

325. Defendants failed to correct, clarify, rescind, and/or qualify its representations to Plaintiff that Defendants' acts and/or omissions were not causing any physical harm and/or damage to him, or that the PFAS products were safe to use.

326. Despite knowing that their PFAS products are toxic, can contaminate soil and water resources, and present significant risks to human health and the environment, Defendants failed to use reasonable care when they: (a) designed, manufactured, formulated, handled, labeled, instructed, controlled, marketed, promoted, and/or sold PFAS products; (b) issued instructions on how PFAS products should be used and disposed of; (c) failed to recall and/or warn the users of PFAS products of the dangers to human health and water contamination as a result of standard use and disposal of these products; and (d) failed and refused to issue the appropriate warnings and/or recalls to the users of PFAS products regarding the proper use and disposal of these products, notwithstanding the fact that Defendants knew, or could determine with reasonable certainty, the identity of the purchasers of their PFAS products.

327. But for Defendants' negligent acts and/or omissions, Plaintiff would not have been exposed to unhealthy levels of PFAS.

328. Defendants' failure to act with reasonable care to (1) design a product to perform safely; (2) failure to issue an adequate warning or instruction on the use of PFAS products

warning and; (3) failure to issue a recall, were substantial factors in causing Plaintiff's harm.

329. Defendants knew or reasonably should have known that users would not realize the danger Defendant's PFAS products posed to human health.

330. A reasonable manufacturer or distributor under the same or similar circumstances would have warned of the danger.

331. Defendants' negligent acts and omissions directly and proximately caused Plaintiff's injury and continue to directly and proximately cause damage to Plaintiff in the form of severe personal injuries, pain, suffering, and emotional distress.

332. Plaintiff is reasonably certain to have future permanent and lasting detrimental health effects due to Plaintiff's present and past injuries directly and proximately caused by Defendants' negligent acts or omissions.

333. It has been reasonably foreseeable to Defendants for at least several decades that Defendants' negligent acts and/or omissions would directly and proximately cause bodily injury and economic damage to Plaintiff including the injuries and damages that Plaintiff suffers from.

334. Defendants were conscious of the dangers of PFAS products, and its negligent acts or omissions, and were conscious that bodily injury to Plaintiff would or was likely to result from the PFAS products and Defendants' negligent acts and/or omissions.

335. Nevertheless, with reckless indifference to these consequences, and as previously detailed, Defendants consciously and intentionally acted negligently and/or omitted the duties Defendants knew it owed to Plaintiff, other exposed individuals, and the public at large, and Plaintiff was harmed as a result.

336. The acts and omissions of Defendants were negligent, intentional, reckless, malicious, willful and/or wanton, and as a direct and proximate result, Plaintiff has suffered and

will continue to suffer some or all of the following damages:

- a. Medical and hospital bills for diagnosis, monitoring, and treatment of injuries;
- b. Physical injury, both temporary and permanent;
- c. Economic damages;
- d. Severe and significant emotional distress and mental pain and suffering;
- e. Humiliation, embarrassment and fear;
- f. Loss of enjoyment of life;
- g. Annoyance and inconvenience; and
- h. Other damages, which, under the law and circumstances, Plaintiff is entitled to recover, including attorneys' fees and costs associated with the prosecution of this action.

Fifth Cause of Action
(Concealment Misrepresentation And Fraud)

337. Plaintiff incorporates herein by reference each and every paragraph of this Complaint as though set forth in full in this cause of action.

338. Defendants knowingly, intentionally, maliciously, willfully, wantonly, recklessly and/or negligently failed and/or refused to advise Plaintiff of the dangers and/or health risks posed by Defendants' PFAS products.

339. Defendants negligently, knowingly, maliciously, willfully, wantonly, recklessly, intentionally, and/or negligently withheld, misrepresented, and/or concealed information regarding Defendants' PFAS products from Plaintiff who had a right to know of information which would have prevented Plaintiff from being exposed and/or continuing to be exposed to the PFAS products.

340. For at least several decades, Defendants had knowledge or the means of knowledge that Defendants' PFAS products were causally connected with or could increase the risk of causing damage to humans and animals, including knowledge of statistically significant findings showing a causal connection between exposure to PFAS products and physical injuries in humans and animals.

341. In connection with the PFAS products, Defendants have had and continue to have a general duty of care to disclose to Plaintiff the actual and potential harm to her person as a direct and proximate result of Defendants' acts and/or omissions, including a general duty of care to disclose to Plaintiff that Defendants had, and were continuingly, exposing Plaintiff to harmful levels of PFAS.

342. In addition to its general duty of care, Defendants also voluntarily assumed a duty to disclose to Plaintiff the actual and potential harm to her body as a direct and proximate result of Defendants' acts and/or omissions, including a duty to disclose to Plaintiff that Defendants had exposed, and were continuingly exposing Plaintiff to harmful PFAS products, which duty was voluntarily assumed by affirmatively representing to Plaintiff that the Defendants and their PFAS exposure were harmless, when Defendants knew and/or reasonably should have known that the Defendants' PFAS products caused, and were continuing to cause, bodily injury.

343. Through Defendants' superior knowledge, responsibility, and/or control over the PFAS products, and Defendants' voluntary actions and/or representations, a relationship of trust and confidence existed between Defendants and Plaintiff.

344. Despite Defendants' knowledge regarding PFAS exposure, and despite Defendants' duties to disclose to Plaintiff, Defendants negligently, maliciously, knowingly, willfully, wantonly, recklessly and/or intentionally withheld, misrepresented, and/or concealed

information from Plaintiff regarding exposure to PFAS products.

345. Defendants withheld, misrepresented, and/or concealed information regarding PFAS exposure from Plaintiff with the intention to mislead and/or defraud Plaintiff into believing that their PFAS exposure was not harmful, and to mislead and/or defraud Plaintiff into continuing to use the PFAS products.

346. Defendants withheld, misrepresented, and/or concealed information regarding PFAS exposure that was a substantial factor in causing Plaintiff's harm.

347. As a direct and proximate result of the aforesaid acts and/or omissions by Defendants, acting for and on its own behalf and as agent, ostensible agent, employee, conspirator, and/or joint venture of others, Plaintiff was exposed to Defendants' PFAS products and was injured.

348. Defendants not only withheld, misrepresented, and/or concealed material information from Plaintiff but also committed fraud against Plaintiff by affirmatively representing to Plaintiff that their PFAS products were harmless and/or did not present any risk of harm, when Defendants knew, reasonably should have known, and/or with utter disregard and recklessness as to whether it was true or not, that Defendants' PFAS products had caused, and were continuing to cause, bodily injury and/or risk of such bodily injury to Plaintiff.

349. Defendants' representations to Plaintiff were knowingly, intentionally, negligently, and/or recklessly false.

350. Defendants had, and continue to have, a duty of care to provide Plaintiff, with truthful representations regarding the actual and potential harm to Plaintiff's person as a direct and proximate result of Defendants' acts and/or omissions, and Defendants voluntarily assumed a duty of care to provide Plaintiff with truthful representations regarding Defendants' PFAS

products and the actual and potential harm to Plaintiff's person as a direct and proximate result of Defendants' acts and/or omissions.

351. Defendants' affirmative representations and/or omissions to Plaintiff were false and were material to Plaintiff in forming Plaintiff's belief that Defendants' PFAS products were safe, in causing Plaintiff to continue to use the PFAS products, and in causing Plaintiff to not seek treatment and/or ways to remedy Plaintiff's past exposure to PFAS products.

352. Defendants made the affirmative representations and/or omissions to Plaintiff with the intention that Plaintiff would be misled into relying on such affirmative representations and/or omissions.

353. Plaintiff relied on Defendants' affirmative representations and/or omissions in forming Plaintiff's belief that Defendants' PFAS products were safe in causing Plaintiff to continue to use the PFAS products, and in not seeking treatment and/or ways to remedy Plaintiff's past exposure to Defendants' PFAS products.

354. Plaintiff was damaged and physically harmed as a direct and proximate result of Plaintiff's justified reliance on Defendants' affirmative, fraudulent representations and/or omissions and, as a direct and proximate result of such justified reliance, Plaintiff continued to use the PFAS products.

Sixth Cause of Action
(Past and Continuing Trespass And Battery)

355. Plaintiff incorporates herein by reference each and every paragraph of this Complaint as though set forth in full in this cause of action.

356. Defendants have known for several decades that their PFAS products are harmful and toxic to humans and animals, and once ingested, will remain in a person's body for a long time, including through binding to blood and/or tissues.

357. Despite such knowledge, Defendants continued to use the PFAS products, which caused harmful physical contact with Plaintiff.

358. Defendants' continued actions with knowledge that such actions will result in harmful physical contact with Plaintiff demonstrate intent and/or reckless indifference by Defendants without regard to the harm they have caused and will cause.

359. Defendants' intentional acts and/or omissions have resulted in PFAS, in the body of Plaintiff or otherwise unlawful and harmful invasion, contact, and/or presence of PFAS in Plaintiff's body, which interferes with Plaintiff's rightful use and possession of Plaintiff's body.

360. The PFAS present in and/or on Plaintiff's body originating from Defendants' PFAS products was at all relevant times hereto, and continues to be, the property of Defendants.

361. The invasion and presence of the PFAS products in and/or on Plaintiff's body was and continues to be unconsented and without permission or authority from Plaintiff or anyone who could grant such permission or authority.

362. Defendants' intentional acts and/or omissions were done with the knowledge and/or belief that the invasion, contact, and/or presence of PFAS products onto, and/or into Plaintiff's body were substantially certain to result from those acts and/or omissions.

363. Harmful contact with Plaintiff's body was the direct and/or indirect result of Defendant's intentional acts and/or omissions.

364. The presence and continuing presence of the PFAS products in and/or on Plaintiff's body is offensive, unreasonable, and/or harmful and constitutes a continuing and/or permanent trespass and battery.

365. Defendants' past and continuing trespass and battery upon Plaintiff's body directly and proximately caused and continues to directly and proximately cause damage to Plaintiff in the

form of bodily injury, for which Defendants are liable.

CLAIM FOR PUNITIVE DAMAGES

366. Plaintiff hereby repeats, realleges, and reiterates each and every allegation in the preceding paragraphs as if fully restated herein.

367. At all times relevant to the present cause of action, Defendants manufactured, marketed, and sold the PFAS products that were used by Plaintiff and that resulted in the physical bodily injuries that Plaintiff has suffered and will continue to suffer.

368. At the time the above-described, affirmative, voluntary, and intentional acts were performed by Defendants, Defendants had good reason to know or expect that their PFAS products were toxic chemicals capable of causing harm to human health.

369. Defendants' negligent, reckless, willful, and/or wanton actions and/or intentional failures to act caused Plaintiff to be exposed to PFAS products.

370. The willful, wanton, malicious, and/or reckless conduct of Defendants, includes, but is not limited to:

- a. issuing no warnings and failing to divulge material information concerning the release of PFAS;
- b. failing to take all reasonable measures to ensure PFAS products would be used effectively and properly disposed of; and
- c. failing to prevent the foreseeable impacts of PFAS exposure upon the Plaintiff.

371. As a result of Defendants' conduct, Plaintiff has been forced to incur and will continue to incur significant costs related to the harm caused by Defendants' PFAS products and will continue to suffer serious, debilitating, and severe physical, mental, and emotional distress

of Plaintiff's injury caused by Defendants' PFAS products.

372. Defendants have demonstrated an outrageous conscious disregard for the physical safety of Plaintiff and acted with implied malice, warranting the imposition of punitive damages.

373. Upon information and belief, Defendants' conduct involved wanton, willful, and/or a conscious and reckless disregard for the health, safety, property, and rights of others. The Court should award the Plaintiff punitive damages in an amount sufficient to deter and punish such conduct.

TOLLING OF THE STATUTE OF LIMITATIONS

Discovery Rule Tolling

374. Plaintiff had no way of knowing about the risk of serious injury associated with the use of and exposure to PFAS, let alone what PFAS is, until very recently.

375. Within the time period of any applicable statute of limitations, Plaintiff could not have discovered, through the exercise of reasonable diligence, that exposure to PFAS is harmful to human health.

376. Plaintiff did not discover and did not know of facts that would cause a reasonable person to suspect the risk associated with the use of and exposure to PFAS; nor would a reasonable and diligent investigation by Plaintiff have disclosed that PFAS could cause personal injury.

377. For these reasons, all applicable statutes of limitations have been tolled by operation of the discovery rule with respect to Plaintiff's claims.

Fraudulent Concealment Tolling

378. All applicable statute of limitations have also been tolled by Defendants knowing and active fraudulent concealment and denial of the facts alleged herein throughout the time

period relevant to this action.

379. Instead of disclosing critical safety information regarding PFAS, Defendants have consistently and falsely represented the safety of PFAS products.

380. This fraudulent concealment continues through present day.

381. Due to this fraudulent concealment, all applicable statutes of limitations have been tolled by operation of the discovery rule with respect to Plaintiff's claims.

Estoppel

382. Defendants were under a continuous duty to consumer, end users, and other persons coming into contact with their products, including Plaintiff, to accurately provide safety information concerning its products and the risk associated with the use of and exposure to PFAS.

383. Instead, Defendants knowingly, affirmatively, and actively concealed safety information concerning PFAS and the serious risks associated with the use of and exposure to PFAS.

384. Based on the foregoing, Defendants are estopped from relying on any statute of limitations in defense of this action.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff demands judgment against all Defendants, jointly and severally, on each of the above-referenced claims and Causes of Action as follows:

A. Awarding compensatory damages to Plaintiff for past and future damages, including but not limited, to pain and suffering for severe and permanent personal injuries sustained by the Plaintiff, health care costs, medical monitoring, together with interest and costs as provided by law;

B. Punitive and/or exemplary damages for the wanton, willful, fraudulent, and/or

reckless acts of the Defendants who demonstrated a complete disregard and reckless indifference for the safety and welfare of the Plaintiff and of the general public and to the Plaintiff in an amount sufficient to punish Defendants and deter future similar conduct;

- C. Awarding Plaintiff reasonable attorneys fees;
- D. Awarding Plaintiff the costs and disbursements of this lawsuit;
- E. Interest on the damages according to law; and
- F. Such other and further relief as this Court deems just and proper.

JURY DEMAND

Plaintiff demands a trial by jury of all claims asserted in this Complaint.

Dated: March 21, 2025

Respectfully submitted,

THE FERRARO LAW FIRM, P.A.

/s/ James L. Ferraro, Jr.

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